BPC Plan

Tennessee Technological University
Department of Computer Science

Effective dates of plan: August 2020-July 2025
Revision of plan will begin: May 2021
Contact: Computer Science Diversity Committee, CSC-Diversity@tntech.edu

Context

Tennessee Technological University is a state university located in Cookeville, TN in the Upper Cumberland Region between Nashville and Knoxville. In Fall 2019, the undergraduate and graduate student population totaled to 10,140, 47% of which were women. Students identifying as white or Caucasian totaled to 83% and no other racial or ethnic group had a population above 4% on campus. However, the Hispanic/Latinx population is significantly underrepresented at the university when compared to the city of Cookeville.

Enrollment in our Computer Science department totals to 640 students as of Fall 2020. The gender disparity is significant within the department when compared to overall campus demographics. As of Fall 2019, only 14% of students in our department identify as women. The Hispanic/Latinx disparity matches that of TTU, but is significant when compared to Cookeville's demographics. Only 4% of students identify as Hispanic/Latinx compared to 6.6% of Cookeville's population.

Our Computer Science department focuses on significantly increasing the number of women and/or Hispanic/Latinx students to better reflect the demographics of our region. While we are interested in broadening the participation of graduate students and faculty, we are currently focused on increasing the percentage of underrepresented groups participating at the undergraduate level. As such, our guiding principles are listed below.

Goals, Activities, and Evaluation

Responsible team members are indicated in parentheses.

(Objective - Collect and Analyze Data): Recruitment and Retention
[Gannod, Brummett, Crockett]
Goal: By the end of May 2022, we will gather and analyze data from the previous 5 years among CSC majors and Pre-CSC majors to guide our 2022-2023 BPC Plan.
Activities: To better understand retention within our CSC program, we will identify our attrition rates disaggregated by race, ethnicity, gender, and first-generation college students. We will also identify if there are gaps between these constituent groups including (1) rates for CS1 earning a D, F, or withdrawing from the course, (2) attrition rates after CS1, and (3) attrition rates after CS2. Every semester, beginning in the spring of 2021, department leadership will meet with leaders from groups such as our National Society of Black Engineers (NSBE) chapter, our ACM-W chapter, WiCYS, and our Society of Hispanic Professional Engineers (SHPE) chapter. These meetings will serve as focus groups to

help identify new opportunities for providing departmental support to students to BPC. We will survey our current Computer Science students and the regional public using a qualitative climate survey on awareness with a focus on engagement, empowerment, and success of underrepresented groups. We will create a quantitative report containing how many applications we receive and how many students we accept, enroll, retain, and graduate from underrepresented groups compared to those from non-underrepresented groups.

(Objective - Collect and Analyze Data): Data Buddies Survey

[Gannod]

Goal: Beginning Fall 2021 we will begin using CRA Data Buddies to guide our CSC Diversity Committee goals and activities as well as to guide our 2022-2023 BPC Plan.

Activities: To better understand our students' experiences, we seek to begin student and faculty participation in an annual Data Buddies Survey, which disaggregates data by gender and race. We will evaluate the effectiveness of this through the quantity and regularity of data we collect and percentage participation in the CRA Data Buddies.

(Objective - Improve Diversity): RedShirt Program

[Gannod, Crockett]

Goal: By 2022, the department will have 50 students participating in the Red-Shirt program in order to increase the diversity of our student body including representation of women, Latinx, and African American students.

Activities: In Fall 2020, we developed a Red-Shirt[1] program which is intended to provide mechanisms for General Curriculum-Computer Science (GECU-CS) students to receive support and networking opportunities within our Computer Science department. GECU-CS students have not yet met the admissions requirements of the Computer Science department but intend to enroll in the CS program after fulfilling the requirements. GECU-CS students have lower retention rates than CS students and are more diverse than the CS population. The CS program is roughly made up of 20% non-white students. The GECU-CS population is approximately 45% non-white. The Red-Shirt program includes specialized tutoring, professional and academic mentoring, specialized academic advising, targeted outreach, recruitment, and scholarships. We will evaluate the success of the Red-Shirt program by retention rates at the end of each academic year.

(Objective - Improve Diversity): Recruitment and Retention of Underrepresented Groups:

[Crockett, Jennings, Siraj]

Goal: By 2025, we will increase enrollment of women by 5%.

Activities: We will host events targeted for women and underrepresented racial and ethnic groups in our department. We will host a Diversity & Inclusion Seminar Series every semester with a focus on the importance of diversity, research, leadership, and career skills. We will continue to support and encourage WiCyS, ACM-W, and SWE activities in our department. We will host a regional NCWIT Aspirations Award Ceremony every summer where we honor 9th-12th grade women for their computing-related achievements and interests. We will track student participation among all of these activities to evaluate their effectiveness.

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[1] The Red Shirt metaphor comes from college athletics and refers to an additional year of preparation for student athletes prior to participation in a full 4-year athletic career.