

Departmental BPC Plan
Computer Science and Engineering (CSE) Department
University of California, Riverside

Effective dates of plan: 05/02/2022- 05/02/2024

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1. Context

The University of California, Riverside (UCR) serves a region of California known as the Inland Empire which is an economically disadvantaged region that lags in educational achievement and economic opportunity. UCR is a Hispanic Serving Institution (HSI) since 2008 (38% Chicano/Latino) and 49% of students are first-generation.

In this document, URG refers to people who identify as African American, Black, Hispanic, Latinx, Native American, Native Alaskan, Native Hawaiian, Pacific Islander, and/or Indigenous.

The Department of Computer Science and Engineering (CSE) resides within the BCOE and offers several undergraduate degree programs. The department created a Broadening Participation Committee (BPC) in 2021 which will work toward and track the outlined goals.

UCR		BCOE	
Undergraduate (22,055, 54% W, 45.1% URG)		Undergraduate (2864, 23.6% W, 32.7% URG)	
Graduate (3,493, 45.4% W 19.2% URG)		Graduate (936, 26.4% W, 8.9% URG)	
Undergraduate		Graduate	
Degree	Total Enrollment	Degree	Total Enrollment
Computer Science (B.S.)	799 (16.9% W, 22.7% URG)	Computer Science (M.S.)	143 (21.6% W, 3.5% URG)
Computer Engineering (B.S)	258 (15.9% W, 31.8% URG)	Computer Engineering (M.S.)	49 (20.4% W, 6.1% URG)
CS with Business Application	120 (22.5% W, 18.3% URG)	Computer Science (PhD)	183 (23.5% W, 3.2% URG)
Data Science (B.S.)	88 (25% W, 8% URG)		

2. Goals:

G1: Recruitment and Retention of Undergraduates: Increase the percentage of women enrolled in our programs (B.S. in Computer Science, Computer Engineering, Computer Science with Business Applications, Data Science, and the new Robotics program) to 25% by 2026.

G2: Data Collection: Annually, collect and report participation and demographic data to understand the effect of various interventions and activities.

G3: Undergraduate Research: By 2025, increase the number of women and students from URGs participating in undergraduate research programs / activities by 25% compared to 2022 (activities associated with Goal 2 include collection of data needed to benchmark this goal).

G4: Graduate Recruitment: Increase the enrollment of women and students from URGs by 5% across graduate programs within CSE each year for the next 4 years.

3. Activities

A1: (G2): Analyze data to identify and understand demographic differences in admission, persistence and outcomes. [Dr. Salloum, Dr. Shinar].

A2: (G1, G2): Work on existing introductory course pathways with the goal of increasing the major's accessibility and appeal to a diverse range of students. Includes understanding learning gaps between student groups. [Dr. LePendou, Dr. Salloum].

A3: (G4): Create B.S. + M.S. pathway in Data Science to encourage a broader range of student to pursue graduate studies. Evaluate existing B.S. + M.S. programs. [Dr. LePendu, Dr. Salloum, Dr. Knight]

A4: (G2): Participate in data collection efforts including CRA's Data Buddies and NCWIT Data Report to better understand UCR trends over time. [Dr. Salloum]

A5: (G1): Recruiting/supporting/sponsoring students from URGs attending/presenting at conferences like Grace Hopper Celebration (GHC), ACM-W CWIC, Tapia, or other technical conferences. [Dr. Salloum]

A6: (G3, G4): Launch/grow the Early Research Scholar Program (ERSP) at UCR which has a particular emphasis on broadening participation for students from URGs. [Dr. Salloum; Dr. Watkinson-Medina]

A7: (G3, G4): CSE Department will participate in organizing a series of workshops to encourage students from URGs to get involved with undergraduate research projects (CAHSI grant). [Dr. Shinar; Dr. Salloum]

A8: (G1): Support transfer students (which include a high-percentage of students from URGs) by holding a yearly non-credit Bridge course that will review concepts needed to transition to UCR. [Dr. LePendu]

A9: (G1): Utilize Undergraduate Learning Assistants (ULAs) in lower division courses (CS10A-B, CS61, CS141, CS11) with particular focus on retention of women and students from URGs. [Dr. Chen]

A10: (G1): Faculty will support WiNC and SWE to hold RoseHack (a women centric hackathon) to address recruitment and retention of female students. [Dr. Salloum, Dr. Chen]

A11: (G1): Lead the year-long Data Science Academy to teach Data Science to ~500 high school students (emphasis on recruiting women and students from URGs), emphasizing life as a college student, one Saturday per month during the regular school year [Dr. LePendu].

A12: (G1): Hold an annual CS4ALL Summer Code Camp to recruit ~80 high school students (emphasis on recruiting women and students from URGs) for a 1-week 9AM-5PM code camp that also emphasizes careers in computing and preparation for college. [Dr. Salloum]

A13: (G1): Outreach to San Diego high schools and community colleges to incorporate computational thinking modules into geography courses that reach a broad student population including a high percentage of students from URGs. [Dr. Magdy]

A14: (G1): Support student organizations (like WINC) by holding workshops, participating in judging, etc. [Dr. Chen, Dr. LePendu, Dr. Watkinson-Medina, Dr. Salloum]

A15: (G1): Work with UCR's Center of Teaching and Learning to offer faculty workshops / speaker series to highlight effective and inclusive pedagogical strategies [Dr. LePendu].

A16: (G4): Serve as a CalBridge UC-mentor (advise CalBridge scholars on grad school applications, CS research areas, etc.) [Dr. Salloum]

A17: (G1): Launch the NuTeach program to support TAs who are interested in academia by offering additional training on effective and inclusive teaching techniques. [Dr. Watkinson-Medina]

A18: (G1): Convene a subcommittee to evaluate updating/adjusting math and physics requirements for CSE programs with the goal of opening more pathways for students from URGs. [Dr. Shinar]

A19: (G1): Create Data Science opportunities for students from URGs. Specifically create pathways from community colleges to undergraduate to master's degree programs. Hold DS summer fellowship to train students in Data Science [Drs. Salloum, Tsotras, LePendu, Magdy].

4. Evaluation

E1: Track faculty participation and numbers/demographics of students participating in the above activities.

E2: The BPC committee will track student data holistically (from application to graduation) with specific attention to equity in admission and understanding retention issues of women and URGs.

E3: A yearly presentation on BPC activities will be made to the advisory board and will include the opportunity for private discussion and feedback directly to the chair of the BPC committee and departmental leadership.

E4: The BPC committee will conduct an annual review of progress on the goals in this document and provide a presentation at the annual faculty meeting.