

**Departmental BPC Plan**  
**Richard A. Miner School of Computer & Information Sciences**  
**University of Massachusetts Lowell**



**Effective dates of Plan:** 05/15/2024 - 05/15/2026

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### **Context**

The University of Massachusetts Lowell is a public research university and is categorized as an AANAPISI. The Richard A. Miner School of Computer and Information Sciences, formed in September 2022 as a transition from a Department of Computer Science, serves 1009 undergraduate students and 298 graduate students with 30 faculty members (22 tenure track and 8 teaching faculty) in our on-campus programs, with an additional 505 undergraduate students and 118 graduate students in our on-line IT programs. In this document, we specify our efforts to increase the participation of people in underrepresented groups (URG), defined to include women, and people who identify as African American, Black, Hispanic, and Latinx, in our on-campus undergraduate cohort. 45% of UML's recent undergraduate cohorts are first-generation students, with significant overlap with our targeted URGs; there is also significant URGs overlap with transfer students from Community Colleges. The gaps between CS on-campus undergraduate demographics (13.1% women, 7.9% Black/African American, 10.0% Hispanic/Latinx) and UML's on-campus undergraduate demographics (39.5% women, 9.3% Black/African American, 15.3% Hispanic/Latinx) form our driving motivation to narrow these gaps with the goals and activities proposed below. The URG retention rate in CS, compared with the overall CS retention rate (URGs: 77.5% vs CS: 84.2% in the last two years available), show that more efforts are needed to retain students from URGs in our school as well.

### **Goals, Activities and Measurements**

**G1: Undergraduate Enrollment.** *Annually increase enrollment of students from URGs in CS until it equals or exceeds the overall UML demographics for female, Black/African American and Hispanic/Latinx students.*

**A1-1: Establish a diverse group of student ambassadors,** paid to answer questions from prospective students and attend recruiting events. Faculty roles include training ambassadors to use positive messaging about computing and overseeing their participation in both internal and external events. [Chair]

**A1-2: Early communication with admitted students.** Faculty will reach out to admitted students from URGs to promote enrollment through mailings with branded items, invitations to talk to student ambassadors, and info about SoarCS (**A2-2**). [DEI committee]

**A1-3: Middle school after-school programs and summer camps.** Faculty will coordinate and participate in after-school programs and summer camps to expand interest in computer science, by designing activities on topics that are relevant and interesting to a wide range of students and assisting with recruitment of students from URGs. [Cabrera]

**A1-4: CIS Scholarship Committee.** Faculty will assist with recruiting a diverse pool of applicants, implement practices to ensure equity in the selection process, and review applications. [Rykalova]

**A1-5: GenCyber Camp.** Faculty will coordinate and participate in a week-long camp on

cybersecurity for HS students, developing recruiting activities targeted to four local high schools with diverse populations including targeted URGs. [Fu]

**Measurement:** Number and types of events held; number and demographics of students participating; faculty participation (from 16-A forms), track % of admitted students that considered early communication when enrolling.

**G2: Retention.** *Improve the retention rate for students from URGs until it meets or exceeds the overall CS retention rate.*

**A2-1: Faculty Professional Development.** Faculty will engage in PD on or off campus (e.g., the CELT program available at UML) and implement inclusive practices in their courses. [Chair]

**A2-2: SoarCS.** SoarCS is a summer bridge program open to all first-year, full-time computer science students. Faculty will engage by giving talks presenting their research to participating students to broaden the appeal of computing. [Wilkes, DEI committee]

**A2-3: Welcome events for transfer students.** Faculty will organize and participate in welcome events targeting transfer students (significant overlap with targeted URGs) including orientation packages, tours, panels/meetings with peers and faculty. [Chair]

**A2-4: Annual climate surveys.** Faculty will implement the Data Buddies survey and a school-run survey to identify points where students leave the program and determine whether there are demographic differences in students' perceptions of the climate. [Amiri]

**Measurement:** Student retention rates; number and types of events held; number and demographics of students participating; faculty participation (from 16-A forms); faculty evaluation metrics (student evals); implementation and results of climate surveys; tracked retention rate of transfer students.

**G3: Research and Graduate School.** *Implement practices to increase research participation by students from URGs and annually track the number and demographics of participating students to monitor progress.*

**A3-1: Promote Research and Graduate School.** Faculty will participate in organized lunch/dinner meetings each semester for undergraduate students on topics including undergraduate research, the BS/MS program, pursuing a PhD, info about being paid to go to graduate school, careers in research, etc. thus ensuring students from all backgrounds are better prepared to pursue research and graduate school. [DEI Committee]

**A3-2: Workshops for River Hawks Scholars.** Faculty will participate in the planning/organization/running of workshops integrated with River Hawk scholars (first generation students support program with significant demographic overlap with targeted URGs) focusing on new research opportunities. [Cabrera]

**A3-3: Research Experiences for Undergraduates.** Faculty will apply for REU supplements to NSF grants (e.g., funding for an REU site in Robotics and AI) and will be encouraged to be DREU mentors to increase diversity of undergraduate researchers. [Yanco]

**A3-4: Alumni involvement.** Faculty will organize and moderate panels and visits with alumni that identify as URGs who will share their stories and successes (such as research experiences or attending graduate school) and will serve as role models for prospective and current students from URGs. [DEI committee]

**Measurement:** Number and demographics of students participating in events and research, number and type of events held, faculty participation (from 16-A forms); funding obtained.