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CONTACT: Michelle Long-Coffee, Dir. PR & Advertising
EMAIL: LongCoMI@wlaac.edu (310) 287-4597
 9000 Overland Ave. – Culver City, CA 90230

West LA College Awarded Grant to Increase Student Success in Calculus



The National Science Foundation (NSF) has awarded a nearly \$200,000 grant to West Los Angeles College to pilot a computer-aided pre-calculus class with the goal of increasing the number of students who succeed in Calculus and qualify to enter science and technology career pathways. The grant award category was “Improving Undergraduate STEM Education: Hispanic-Serving Institutions.”

According to the college’s grant application, many community college students intending to major in science, technology, engineering and/or math (STEM) are underprepared for calculus so precalculus has become a gateway course for many STEM majors.

However, because of low student success in precalculus, the course creates a major constriction in the STEM pipeline. With the NSF grant, West will develop a supplementary computer science course centered on precalculus topics that is paired with the pre-calculus course. Up to 60 students will experience the paired courses during the grant period and their success rates in pre-calculus, calculus and transferring to universities will be compared to students in traditional precalculus classes.

“We’re excited about this pilot,” said WLAC Computer Science Professor Manish Patel. “It will provide valuable insight into how computer programming can elevate student success in precalculus and calculus. If we’re successful, it’s an approach that can be adapted widely in high schools and colleges and increase the volume and diversity of students pursuing STEM majors.”

“Project results will also add to the body of knowledge on how using computing to teach precalculus can help underserved and underperforming students gain access to STEM disciplines,” explained Academic Affairs Vice President Jeff Archibald, Ed.D. “The project team will share project and research results with other educational institutions locally, regionally, and nationally. Additionally, our project faculty will be available to assist others interested in this approach through on-site and online consultation.”

According to NSF.gov, the “Hispanic-Serving Institutions (HSIs) Program aims to enhance undergraduate STEM education, broaden participation in STEM, and build capacity at HSIs. Achieving these aims, given the diverse nature and context of the HSIs, requires innovative approaches that incentivize institutional and community transformation and promote fundamental research (i) on engaged student learning, (ii) about what it takes to diversify and increase participation in STEM effectively, and (iii) that improves our understanding of how to build institutional capacity at HSIs.

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#CULVER PRIDE AT WEST LOS ANGELES COLLEGE...continued

Projects supported by the HSI Program will also draw from these approaches to generate new knowledge on how to achieve these aims.”

The student population at West is diverse in race, ethnicity, age and social-economic background. Hispanics currently represent approximately almost 50% of the student population.

West Los Angeles College is an ACCJC accredited community college with expansive scenic views, located in Culver City offering career certificates and degrees, university transfer, and professional advancement courses. STEM programs include traditional university transfer paths in science, computer science, engineering and medical professions as well as two-year degrees and shorter-term certificate programs in information technology, biotechnology, health care and aviation technology. West is one of only 15 California community college authorized to offer a Bachelor’s degree in a subject. For West, that subject is Dental Hygiene. The college has also been a leader in online education for over 20 years and has received numerous awards and recognitions for its online programs. More information about the college can be found at WLAC.edu .

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