

Computing Research Experiences for STEM Teachers (CREST)

<http://c-stem.ucdavis.edu/training/CREST>



The CREST program, an NSF RET Site project, develops an enduring partnership between secondary school science, technology, engineering and mathematics (STEM) teachers and UC Davis C-STEM Center to promote teachers' professional development and creates a teaching



"infrastructure" that stimulates and inspires them to effectively guide their students towards computing and STEM related careers and post-secondary study. The project integrates computing and robotics into K-12 STEM education to close the achievement gap.

Computing and Robotics Research Experiences for STEM Teachers

- Conduct cutting-edge research on computing and robotics with UCD faculty and researchers
- Conduct Research on K-12 Computing and STEM Education
- Develop pedagogy and strategies to integrate computing and robotics into STEM education
- Develop teaching resources for K-12 computing and STEM education



Training and Professional Development for STEM Teachers

- Offer workshops, tutorials, summer, fall, and winter institutes for professional development for STEM teachers on computing and programming in C/C++, pedagogy on teaching computing in K-12, and its integration in STEM curriculum.
- Provide STEM teachers with teaching materials including course syllabus, homework assignments, and solutions.



Teaching in K-12 Schools

- A supporting group of UC Davis faculty, graduate and undergraduate students, and K-12 teachers for implementation. UC Davis students learn technology and leadership through K-12 outreach activities.
- UC Davis graduate and undergraduate students travel to K-12 schools to give lectures and serve as role models to inspire K-12

students to learn computing and STEM subjects.

- Show K-12 students what can be accomplished with an education in computing and STEM related fields.

Showcase Research Experience and STEM Education on UC Davis C-STEM Day

- UC Davis Secondary School Math Programming Competition
- RoboPlay Competitions – Video and Challenge
- Conference on C-STEM Education in the 21st Century

2013 – 2014 CREST Fellow Information

- Six-week (8 hours/day) summer program
 - Stipend for in-service teachers is \$4,800 at \$160/day with additional support during the academic year
 - Stipend for pre-service teachers is \$3,000 at \$100/day with additional support during the academic year
- Academic year follow-up plan with support from the C-STEM Center
- Information Session: 5pm - 6pm; February 7, 2013
- Deadline for application: April 5, 2013
- Notification of application: April 19, 2013
- Applications are available on our website at <http://c-stem.ucdavis.edu/training/CREST/>
- Contact: c-stem@iel2.engr.ucdavis.edu



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