



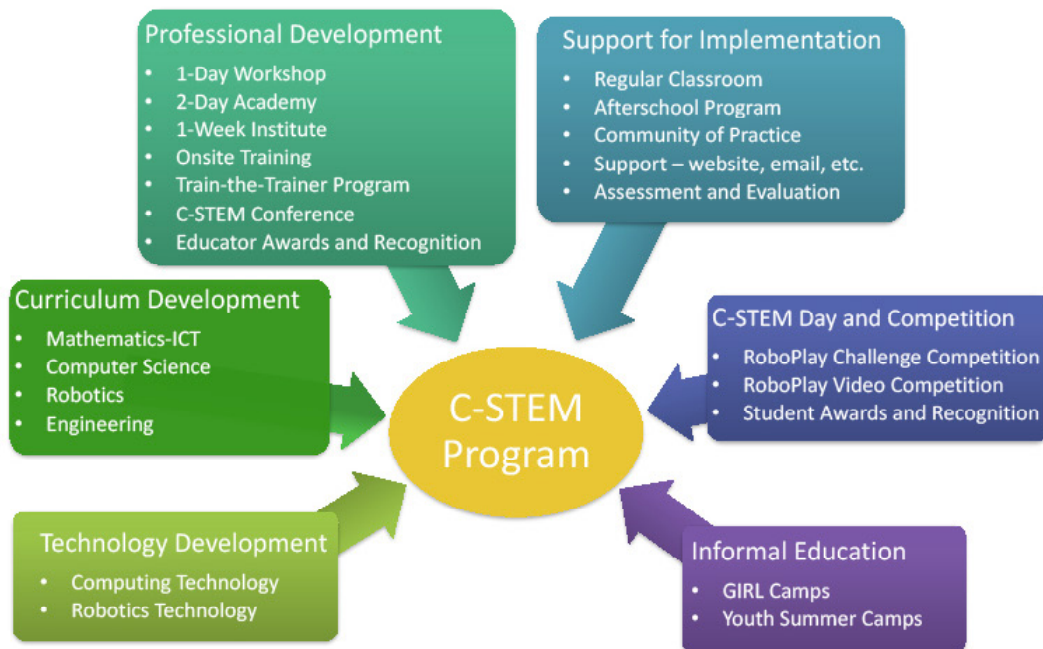
UC Davis Center for Integrated Computing And STEM Education (C-STEM)

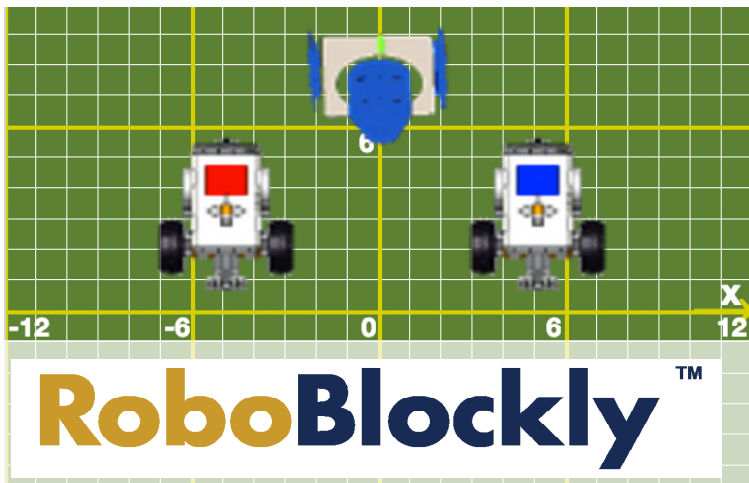
Transforming Math Education Through Computing

About C-STEM

C-STEM is a UC Approved Educational Preparation Program for Undergraduate Admission for all UC campuses. C-STEM is UC A-G Program Status. Schools can easily add the A-G approved rigorous C-STEM curriculum to their own school's A-G course lists to satisfy the UC/CSU admission requirements. The mission of the C-STEM Center is to improve computing, science, technology, engineering, and mathematics in both formal and informal K-14 education. The C-STEM Math-ICT curriculum provides K-12 students with 12-years of computer science education through integrated learning of math and science with coding in Blockly and Ch/C/C++.

C-STEM PROGRAM





A web-based robot simulation environment for learning coding and math. Based on Google Blockly, it uses a simple puzzle-piece interface to program virtual Linkbot and Lego Mindstorms NXT/EV3 for beginners to learn robotics, computing, science, technology, engineering, and math (C-STEM). Blocks can be executed in debug mode step-by-step.

C-STEM Studio is a user-friendly platform for using the C-STEM integrated curriculum by university faculty and students, K-12 teachers and students, parents, volunteers, etc. It is integrated with the breakthrough educational computing and robotics technologies for learning STEM subjects, including: C/C++, interpreter Ch, Linkbot Labs, Ch Linkbot Controller, Ch Mindstorms Package and Robot Controller for Lego, Mindstorms NXT/EV3, RoboSim, RoboBlockly, and Arduino.

C-STEMStudio
C for Science, Technology, Engineering, and Mathematics (STEM) education
Version 1.0

- Programming with Ch
- Ch Command Shell
- Linkbot Labs
- Ch Linkbot Controller
- Ch Robot Controller
- RoboSim
- RoboBlockly
- Arduino

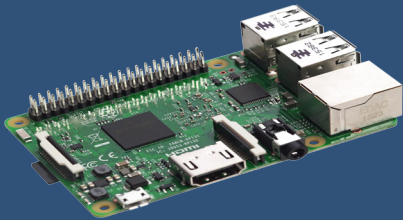
Code in Curriculum
Teaching Resources
Student Homework

C-STEM Studio is a platform for teaching science, technology, engineering, and mathematics (STEM) through computing and robotics for integrated learning. It is

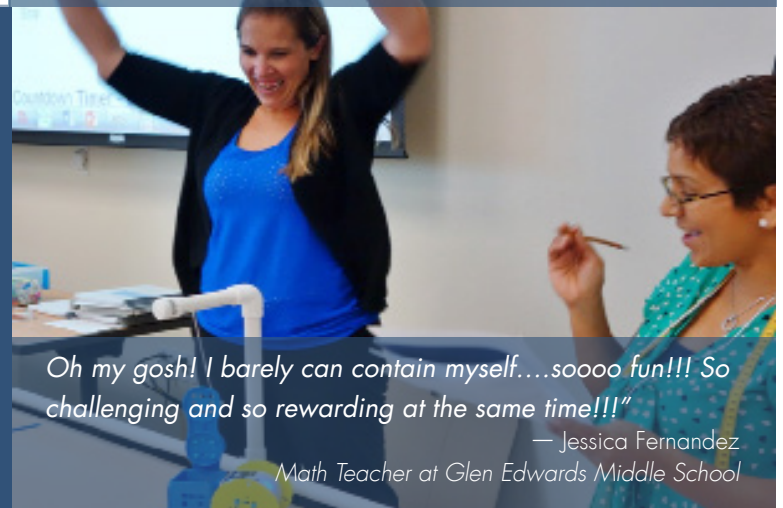
- the most engaging way to learn math, coding, and robotics,
- the simplest approach to program a robot,
- the easiest technology to control multiple robots.

C-STEMbian™

C-STEMbian is a **free** open source Linux operating system based on Raspbian for Raspberry Pi. It extends Raspbian with easy installation of many additional components, including C-STEM Studio and user-friendly C/C++ interpreter Ch, to help absolute beginners learn coding, making, robotics, and STEM.



Empower STEM Teachers



A C-STEM Success Story

Last year, Hillcrest High School in Riverside, CA implemented 1 session C-STEM Integrated Math 2 with Computing and Robotics:

A pass rate of 94% using a school wide standard math examination, the school average passing rate for other non C-STEM courses is 61%.



California Department of
EDUCATION



Barobo



UC DAVIS
C-STEM Center
c-stem.ucdavis.edu