The C-STEM program transforms K-14 computing, science, technology, engineering, and mathematics education in both formal and informal programs, with a focus on Algebra. The C-STEM Math-ICT curriculum provides K-12 students with up to 13 years of computer science education through integrated learning of math and science with hands-on coding, making, and robotics. Previous research studies show that computer science alone does not help students’ math achievement. However, through over a decade of dedicated research and development, C-STEM now has a track record in transforming math education with higher achievement through computing.

C-STEM Success Stories by teachers with no prior coding experience:
http://c-stem.ucdavis.edu/about-us/success

For at-risk and gifted students alike, C-STEM program significantly increases math performance and closes achievement gap:

- **American Canyon Middle School, American Canyon, CA**
  
  100% of C-STEM Integrated Math I students scored “Standards Exceeded” or “Standards Met” on the Common Core Smarter Balanced Test (94% “Standards Exceeded” and 6% “Standards Met.” 37% of students scored the highest score possible), compared to the district wide 33% and school-wide 38%.

- **Livermore High School, Livermore, CA**
  
  In a C-STEM Algebra 1 class consisting of 84% “at-risk” students with a GPA below 2.0, extreme attendance issues, very low socio-economic backgrounds, or identify as foster or migrant education students, students scored an 83% average on the district final exam on Algebra (versus 68% district wide average using the same exam). The course pass rate is 100% with an average course grade 84%.

- **Hillcrest High School, Riverside, CA**
  
  94% of students in C-STEM Integrated Math II were able to earn passing marks, compared to the site average of 61% passing rate in non C-STEM Integrated Math II courses.

- **Northwest Local School District, Cincinatti, OH**
  
  77% of the students in the Applied Math class using C-STEM curriculum passed the 8th grade Math AIR assessment versus 16% of the students in Applied Math who passed in the previous year (not using C-STEM curriculum).

In only one week or less, teachers, through C-STEM Professional Development with hands-on experience, can bring computing and robotics into their classroom teaching.

“Oh my gosh! I barely can contain myself ….sooo fun!!! So challenging and so rewarding at the same time!!!”

Jessica Fernandez
Math Teacher
Glenn Edwards Middle School

For more information, contact Email: info@c-stem.ucdavis.edu Phone: (530) 752 - 9082 http://c-stem.ucdavis.edu
### CTE Program of Study

**CTE Program of Study**

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<td>Area F</td>
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</tbody>
</table>

#### Recommended Activities:

- RoboPlay Video Competition
- RoboPlay Challenge Competition
- GIRL Camp
- Job Shadowing
- Work Based Learning
- Service Based Learning
- Mentorships
- Career Technology Student Organization (CTSOs)
- Maker Fair, Hacker Space
- Seek industry certifications such as Microsoft, CompTIA, CIW, CISCO, etc.
- Add to digital portfolio.

#### Industry Sector: Information and Communication Technologies

- **Career Pathway:** Software and Systems Development

- **CTE Courses:**
  - Acct 110: Financial Acct
  - Acct 120: Managerial Acct

- **Additional and Optional Courses:**
  - ECON 21: Microeconomics
  - Intro to Programming (ITIS 190)
  - Intro to Database Management Systems (ITIS 170)
  - Select 1 from: Business Statistics or Finite Math
  - Select 1 from: Business Information Systems or Computer Information Systems

- **General Education Requirements:**
  - Area A
  - Area B
  - Area C
  - Area D
  - Area E

- **Occupations Relating to This Pathway:**
  - Customer Service Representative
  - Help Desk Specialist
  - Network Engineer
  - Business Programmer
  - Computer Analyst
  - Systems Administrator
  - Accountant
  - Manager
  - Chief Information Officer

- **Comments:**
  - Courses with this color are UC Davis C-STEM courses. One or more of C-STEM courses can be replaced by other equivalent or relevant courses.
  - Prerequisite requirements may vary by school and may alter the sequence of courses above.
  - This template is based upon requirements for CSU transfer pattern and assumes that all basic skills (remedial) coursework is completed.
  - Where there are course numbers identified, the course number references the CID course. Course content for these courses may be found at www.c-id.net/descriptors. Per Title 5, students may only receive credit for articulated high school work upon completion of a credit by exam mechanism that ensures that the objectives of the community college course have been met. Completion of an articulated