

CTE PROGRAM OF STUDY: C-STEM Information and Communication Technologies							Industry Sector: Information and Communication Technologies				Career Pathway: Software and Systems Development	
Levels	Grade	CTE/CS Courses	English Language Arts	Math	Social Science	Science	Other Required Courses or Recommended Electives	Dual and/or Concurrent Enrollment	Articulated Courses (College Credit for HS Classes)			
Elementary	K	CS/STEAM with Robotics for Kindergarten	English	Mathematics with Robotics for Kindergarten		CS/STEAM with Robotics for Kindergarten						
	Recommended Activities: RoboBlockly											
	1	CS/STEAM with Robotics for Grade 1	English	Mathematics with Robotics for Grade 1		CS/STEAM with Robotics for Grade 1						
	Recommended Activities: RoboBlockly											
	2	CS/STEAM with Robotics for Grade 2	English	Mathematics with Robotics for Grade 2		CS/STEAM with Robotics for Grade 2						
	Recommended Activities: RoboBlockly											
	3	CS/STEAM with Robotics for Grade 3 (Programming & C#)	English	Mathematics with Robotics for Grade 3		CS/STEAM with Robotics for Grade 3						
	Recommended Activities: RoboBlockly											
	4	CS/STEAM with Robotics for Grade 4	English	Mathematics with Robotics for Grade 4		CS/STEAM with Robotics for Grade 4						
	Recommended Activities: RoboBlockly											
	5	CS/STEAM with Robotics for Grade 5	English	Mathematics with Robotics for Grade 5		CS/STEAM with Robotics for Grade 5						
	Recommended Activities: RoboBlockly											
Middle	7	CS/STEAM with Robotics for Grade for Middle School Introduction to Computer Programming (Learn C#)	English	Math 7 with Computing	World History / Geography	Life Sciences	Physical Education					
	Recommended Activities: RoboPlay Competition											
	8	CS/STEAM with Robotics for Middle School Robotics and Video Production (Learn LinkKit)	English	Math 8 with Computing	US History / Geography	Life Sciences	Physical Education					
	Recommended Activities: RoboPlay Competition											
Secondary	9	Computing with Robotics (including STEAM, digital media, video product)	English	Algebra I with Computing and Robotics (Honors) IM1 with Computing and Robotics (Honors)		Physical Science	Physical Education					
	Recommended Activities: RoboPlay Competition, Mouse Squad, Students Recycling Used Technologies, Cyber Security Competition, Gaming Clubs, Computer Science Clubs, Virtual Enterprise, Think Quest, Imagine Cup, Job Shadowing activities, Career Tech Student Organizations (CTSO's). Begin a digital portfolio.											
	10	AP Computer Science Principles (Anticipate fully available in fall, 2021)	English	Geometry with Computing and Robotics (Honors) IM2 with Computing and Robotics (Honors) (Supplementary only, full textbook under development)	World History	Biological Science	Physical Education					
Recommended Activities: RoboPlay Competition, Mouse Squad, Students Recycling Used Technologies, Cyber Security Competition, Gaming Clubs, Computer Science Clubs, Virtual Enterprise, Think Quest, Imagine Cup, Job Shadowing, Mentoring activities, Career Tech Student Organizations (CTSO's). Add to digital portfolio.												
High School	11	Robotic Technology (Autism), Sensor-Based Robotics, C Programming)	English	Algebra II with Computing and Robotics IM3 with Computing and Robotics (Supplementary only, full textbook under development)	US History		Foreign Language I or Visual & Performing Arts * (Districts may allow CTE to fulfill this)					
	Recommended activities: RoboPlay Competition, Job Shadowing, Work Based Learning, Service Based Learning, Mentorships, Career Technology Student Organization (CTSOs), Maker Fair, Hacker Space, Think Quest, Imagine Cup, NetRiders, Take Community College placement tests in Math and English. Seek industry certifications such as Microsoft, CompTIA, CWI, CISCO, etc. Add to digital portfolio.											
Postsecondary	12	Computer Programming in C++ and Python (under development by C-STEM) or AP Computer Science A (Java) or Network System or Cyber Security		AP Statistics or Pre-Calculus (with Computing and Robotics)	Economics (semester)		STAT120: Statistics *					
	Recommended activities: RoboPlay Competition, Job Shadowing, Work Based Learning, Service Based Learning, Mentorships, Career Technology Student Organization, Maker Fair, Hacker Space, Think Quest, Imagine Cup, NetRiders. Seek industry certifications such as Microsoft, CompTIA, CWI, CISCO, etc. Enroll at Community College. Add to digital portfolio.											
CTE Courses												
Postsecondary	13	Advanced Computer Programming in C										
	14											
	15											
	16											
	Comments: * 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 C-ID 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 course in high school does not guarantee receipt of credit at the community college.											



This template assumes students have completed high school exit exams and basic skills coursework. Local graduation requirements may vary.

- Legend:**
- Ⓛ** Course is recommended by industry experts
 - #** Course is articulated, see comments below
 - ★** Course may be taken via concurrent or dual enrollment
 - Ⓞ** Indicates a course that may satisfy multiple requirements



Creating School to College Interactions