

Diversity in Tech: ICT Pathways

Description

DESCRIPTION: The explosive growth of the tech industry in the Bay Area created high-paying job opportunities. But for many local young adults, this career path can seem inaccessible if they don't know how to navigate higher education or can't take 4 years out from the workforce to pursue a degree. To create a more affordable and equitable pathway for Bay Area residents to enter fulfilling and high-paying tech related jobs, and close the divide between students eager for the opportunity to enter technology careers and employers seeking to hire skilled workers. The Diversity in Tech proposal will create an ICT pathway for diverse students from high schools and community partners, through community colleges, and into jobs, university and careers, offering a combination of skills, classroom education, and on-the-job experience in high-demand tech industries. Students will work towards milestones in coursework, capped by industry-recognized certifications, associate degrees, and bachelor degrees. To support this goal, Foothill College has accepted the leadership and administrative role. College staff, with the help of the BACCC network of participating CTE main contacts and ICT faculty, the Bay Region Deputy Sector Navigator for IT and CS, the coordination of the Marcus Foster Education Institute, and using the non-profit highly successful YearUp! program as the initial pilot model, hope to begin the first-year pilot by focusing on the following: 1. Engagement with community partners Non-Profits and Community Based Organizations (CBOs) starting with YearUp! who have a relationship and history with diverse and under-presented populations. 2. Organize and align Community College IT/Cybersecurity and CS offerings, using the IT Model Curriculum and the CS Transfer Model Curriculum as a base, at each of the participating college. 3. Development of a regional ICT Business and Industry Leadership Team (BILT), currently know as Advisory Council/Committee, serving each participating college's IT and CS programs. Leverage the work done with the Slingshot grants to the East Bay to promote expanded sector partnerships that will eventually include hundreds of employers in ICT. Connect with a similar effort in the South Bay / Silicon Valley sub-region.

INDUSTRY SECTORS: Information & Communication Technologies (ICT)/Digital Media;

START DATE: Fri Mar 31 2017

END DATE: Mon Dec 31 2018

LEAD INSTITUTION: Foothill College

READ THE SWP LEGISLATION: Yes

MEETS REQUIREMENTS OF SWP LEGISLATION: Yes

WHAT NEED DOES THIS PROJECT ADDRESS?

The explosive growth of the technology industry in the Bay Area created high-paying job opportunities for those with the skills and experience to compete for them. But for many local young adults, this career path can seem inaccessible if they don't know how to navigate higher education or can't take four years out from the workforce to pursue a bachelor's degree. And many employers are still looking to fill crucial roles, but cannot find enough talented, skilled workers to fill their demand. The Diversity in Tech Career Pathway seeks to create a more affordable and equitable pathway for Bay Area residents to enter fulfilling and high-paying tech related jobs, and close the divide between students eager for the opportunity to enter technology careers and employers seeking to hire skilled workers. Diversity in Tech Career Pathway will create a pathway for diverse students from high schools and community partners, through community colleges, and into bachelor's degree institutions and jobs, offering a combination of skills, classroom education, and on-the-job experience in high-demand tech industries. Students will work towards milestones in coursework, capped by industry-recognized certifications, associate degrees, and bachelor degrees. Specific career paths could include: web development, security operations, data analytics, information technology, computer science and engineering, and systems administration.

HOW DOES THIS PROJECT MEET THE NEEDS OF YOUR REGION'S LABOR MARKET?

Yes! IT/Cybersecurity Pathway The cyber security talent gap exists across the country. The gap is particularly large in the Bay Region. According to Cyberseek there are over 20,000 cyber security job openings in Silicon Valley, SF Peninsula and East Bay sub regions alone. The Cyberseek project is supported by the National Initiative for Cybersecurity Education (NICE), a program of the National Institute of Standards and Technology in the U.S. Department of Commerce, under Grant #60NANB15D267. (<http://cyberseek.org/index.html>) DevOps Pathway Web Development, Software Development and the evolving DevOps engineering skills are at the top of the list of employment opportunities in Peninsula and Silicon Valley sub-regions of the Bay Area. Thousands of job opportunities exist. Glassdoor - 8600+ job posting for DevOps Engineer in the Bay Area, ZipRecruiter - 3,104 Devops Engineer Jobs in San Francisco, Dice - 1600 DevOps Engineer jobs in Bay Area, CA.

HOW DOES THIS PROJECT ADDRESS THE IDENTIFIED NEEDS?

This proposal would provide: * Pathways in IT/Cybersecurity and DevOps that include milestone industry-recognized certification tests * Employer engagement to connect curriculum with industry-wide valued skills * Clearly articulated pathways using the C-ID Model Curriculum * Cohort-based enrollment model * Curriculum adopted and accepted across all community college partners * Centered on building diversity and equitable attainment of technology skills and jobs. Students will achieve positive outcomes through: * Employment * Certificate and/or Associate or Bachelor degree attainment * Industry-recognized credential or certificate attainment

HOW DOES THIS PROJECT ADDRESS THE PRIORITIES ESTABLISHED BY YOUR REGION?

The region has long recognized the need to diversify the Tech workforce but has suffered for a lack of leadership to address this undertaking. There is a growing interest on the part of companies to diversify their workforces. Insert outcomes of 1/12/17 CTE Leadership Group as applicable...

Contacts

Labor Market Information

BACCC Can Assist With This

OCCUPATIONS:

- 15-1131 Computer Programmers
- 15-1122 Information Security Analysts
- 15-1132 Software Developers, Applications
- 15-1133 Software Developers, Systems Software
- 15-1134 Web Developers
- 15-1142 Network and Computer Systems Administrators
- 15-1151 Computer User Support Specialists
- 15-1152 Computer Network Support Specialists

REGION: Bay Area

PROGRAMS:

- Monterey Peninsula College - Computer Programming (070710)
- Foothill College - Computer Software Development (070700)
- Foothill College - Computer Infrastructure and Support (070800)
- Cabrillo College - Computer Software Development (070700)
- Cabrillo College - Computer Infrastructure and Support (070800)
- Foothill College - Computer Networking (070810)
- Cabrillo College - Computer Networking (070810)
- Diablo Valley College - Computer Infrastructure and Support (070800)
- Diablo Valley College - Computer Networking (070810)
- Diablo Valley College - Computer Software Development (070700)
- Monterey Peninsula College - Computer Networking (070810)
- Monterey Peninsula College - Computer Infrastructure and Support (070800)
- Las Positas College - Computer Software Development (070700)
- Las Positas College - Computer Software Development (070700)
- Las Positas College - Computer Networking (070810)

TOTAL DEMAND 11692

TOTAL SUPPLY 737

DEMAND - SUPPLY 10955 Demand Exceeded: Eligible for Funding

Outcomes

Investment Plan

Working with our lead Community Based Organization YearUp! to develop best practices for closing the opportunity divide by providing urban young adults with the skills, experience, and support that will empower them to enter into a college tech pathway in IT/Cybersecurity or DevOps. Develop a regional ICT Business and Industry Leadership Team (BILT) for each of the pathways to help us confirm and deliver the relevant knowledge, skill, and abilities required. Organize and align partnering community college's IT/Cybersecurity and CS/Software Development offerings, using the IT Model Curriculum and the CS Transfer Model Curriculum as a base.

Occupational Clusters

Monterey Peninsula College - Computer Programming (070710)

METRIC	2016-17	2017-18	FALL 2018
Number of Enrollments	270	270	135

Foothill College - Computer Software Development (070700)

METRIC	2016-17	2017-18	FALL 2018
Number of Enrollments	100	100	50

Foothill College - Computer Infrastructure And Support (070800)

METRIC	2016-17	2017-18	FALL 2018
Number of Enrollments	100	100	50

Cabrillo College - Computer Software Development (070700)

METRIC	2016-17	2017-18	FALL 2018
Number of Enrollments	100	100	50

Cabrillo College - Computer Infrastructure And Support (070800)

METRIC	2016-17	2017-18	FALL 2018
Number of Enrollments	70	70	35

Foothill College - Computer Networking (070810)

METRIC	2016-17	2017-18	FALL 2018
Number of Enrollments	100	100	50

Cabrillo College - Computer Networking (070810)

METRIC	2016-17	2017-18	FALL 2018
Number of Enrollments	60	60	30

Diablo Valley College - Computer Infrastructure And Support (070800)

METRIC	2016-17	2017-18	FALL 2018
Number of Enrollments	60	60	30

Diablo Valley College - Computer Networking (070810)

METRIC	2016-17	2017-18	FALL 2018
Number of Enrollments	60	60	30

Diablo Valley College - Computer Software Development (070700)

METRIC	2016-17	2017-18	FALL 2018
Number of Enrollments	100	100	50

Monterey Peninsula College - Computer Networking (070810)

METRIC	2016-17	2017-18	FALL 2018
Number of Enrollments	60	60	30

Monterey Peninsula College - Computer Infrastructure And Support (070800)

METRIC	2016-17	2017-18	FALL 2018
Number of Enrollments	60	60	30

Las Positas College - Computer Software Development (070700)

METRIC	2016-17	2017-18	FALL 2018
Number of Enrollments	60	60	30

Las Positas College - Computer Software Development (070700)

METRIC	2016-17	2017-18	FALL 2018
Number of Enrollments	60	60	30

Las Positas College - Computer Networking (070810)

METRIC	2016-17	2017-18	FALL 2018
Number of Enrollments	60	60	30

Task Force Recommendations

Student Success

1. Broaden and enhance career exploration and planning, work-based learning opportunities, and other supports for students.
2. Improve CTE student progress and outcomes.

Career Pathway

3. Develop and broadly publicize industry-informed career pathways that prepare students for jobs needed within the regional labor market.

Workforce Data & Outcomes

4. Create common workforce metrics for all state-funded CTE programs and expand the definition of student success to better reflect the wide array of CTE outcomes of community college students.

Curriculum

7. Evaluate, strengthen, and revise the curriculum development process to ensure alignment from education to employment.
8. Evaluate, revise and resource the local, regional, and statewide CTE curriculum approval process to ensure timely, responsive, and streamlined curriculum approval.
9. Improve program review, evaluation, and revision processes to ensure program relevance to students, business, and industry as reflected in labor market data.
10. Facilitate curricular portability across institutions.
12. Clarify practices and address issues of course repetition for CTE courses when course content evolves to meet changes in skill requirements.

CTE Faculty

14. Consider options for meeting minimum qualifications to better integrate industry professionals who possess significant experience into CTE instructional programs.
15. Enhance professional development opportunities for CTE faculty to maintain industry and program relevance.
16. Explore solutions to attract industry professionals in high-salaried occupations to become CTE faculty in community colleges.

Regional Coordination

17. Strengthen communication, coordination, and decision-making between regional CTE efforts and the colleges to meet regional labor market needs.
18. Clarify and modify, as appropriate, state regulations to allow colleges to regionalize course articulation along career pathways utilizing regional or state curriculum models.
19. Develop regional leadership and operational partnerships among community college, industry, labor, and other workforce and economic development entities to improve the delivery of all CTE efforts.
20. Develop robust connections between community colleges, business and industry representatives, labor and other regional workforce development partners to align college programs with regional and industry needs and provide support for CTE programs.

Funding

23. Create a predictable, targeted, and sustained funding stream that leverages multiple local, state, and federal CTE and workforce funds to support an infrastructure for collaboration at the state, regional and local levels; establish regional funding of program start-up and innovation; and develop other coordination activities.

Workplan

Risks

1. Participating colleges do not allocate sufficient staff time for convening and participation in the effort
2. Participating colleges are unwilling to do the necessary internal re-design and reallocation of resources to scale effective pathways development beyond "boutique" courses.
3. We do not allocate sufficient SWP regional funding for a focused sustained effort
4. The State/Federal funding situation crashes and dramatically changes local system capacity

RESPONSIBLE PERSON: ICT DSN, Contracted Project Coordinator, and YearUp!

LEAD INSTITUTION OR PARTNER: Foothill College

PARTICIPATING INSTITUTIONS: Cabrillo College, Diablo Valley College, Foothill College, Las Positas College, Monterey Peninsula College

ACTIVITY TIMEFRAME: Year 2

MAJOR ACTIVITIES: 1. Establish Business and Industry Leadership Teams (BILT) for each of the pilot pathways: IT/Cybersecurity and DevOPs. The BILT will be shared between participating colleges. 2. Coordinate cross campus efforts to build the IT/Cybersecurity and/or DevOPs pathways. 3. Under leadership from YearUp engage Community Based Organization dedicated to supporting underserved populations in the Bay Region achieve employment in the ICT Tech field. 4. Identify dual-enrollment or articulation opportunities for pathway course work.

MAJOR OUTCOMES: 1. Regionally shared Business and Industry Leadership Teams formed for each pathway. 2. Pathways in IT/Cybersecurity and/or DevOPs identified at each of the participating colleges. Pathways will align to existing State Model Curriculum and address business and industry identified knowledge, skills, and abilities. 3. Curriculum adoption and approval process started. 4. Community Based Organizations identified and linked to the project. 5. Dual-enrollment or articulated courses identified in each pathway.

Budget Breakdown

Contra Costa CCD	SWP Regional Share (40%)	5000 - Other Operating Expenses and Services	\$15,000
-------------------------	--------------------------	--	----------

General Program Support for regional collaboration and planning

Monterey Peninsula College	SWP Regional Share (40%)	5000 - Other Operating Expenses and Services	\$10,000
-----------------------------------	--------------------------	--	----------

Professional development/training; Marketplace meetings

Cabrillo College	SWP Regional Share (40%)	1000 - Instructional Salaries	\$6,000
-------------------------	--------------------------	-------------------------------	---------

Note: budget items need to be discussed with team. I am more or less creating placeholders. Program coordination

Cabrillo College	SWP Regional Share (40%)	5000 - Other Operating Expenses and Services	\$14,000
-------------------------	--------------------------	--	----------

Professional development and training, marketplace attendance.

Las Positas College	SWP Regional Share (40%)	1000 - Instructional Salaries	\$15,000
----------------------------	--------------------------	-------------------------------	----------

LPC Faculty non-instructional compensation for curriculum development.

Las Positas College	SWP Regional Share (40%)	3000 - Employee Benefits	\$2,600
----------------------------	--------------------------	--------------------------	---------

LPC personnel benefits.

Ohlone College	SWP Regional Share (40%)	5000 - Other Operating Expenses and Services	\$5,245
-----------------------	--------------------------	--	---------

To support regional development for this project

Foothill College	SWP Regional Share (40%)	5000 - Other Operating Expenses and Services	\$350,000
-------------------------	--------------------------	--	-----------

Start-up funding for the first year Diversity in Tech pilot. Funds will be used to to the following: 1. Engagement with community partners Non-Profits and Community Based Organizations (CBOs) starting with YearUp! who have a relationship and history with diverse and under-represented populations. 2. Organize and align Community College IT/Cybersecurity and CS offerings, using the IT Model Curriculum and the CS Transfer Model Curriculum as a base, at each of the participating college. 3. Development of a regional ICT Business and Industry Leadership Team (BILT), currently know as Advisory Council/Committee, serving each participating college's IT and CS programs. Leverage the work done with the Slingshot grants to the East Bay to promote expanded sector partnerships that will eventually include hundreds of employers in ICT. Connect with a similar effort in the South Bay / Silicon Valley sub-region.

Foothill College SWP Regional Share (40%) 5000 - Other Operating Expenses and Services \$100,000

To support the regional development of ICT Pathways, professional development/training; Marketplace meetings

Budget Totals

INSTITUTION	CODE	TOTAL
Contra Costa CCD	5000 - Other Operating Expenses and Services	\$15,000
Contra Costa CCD Total:		\$15,000
Cabrillo College	1000 - Instructional Salaries	\$6,000
Cabrillo College	5000 - Other Operating Expenses and Services	\$14,000
Cabrillo College Total:		\$20,000
Foothill College	5000 - Other Operating Expenses and Services	\$350,000
Foothill College	5000 - Other Operating Expenses and Services	\$100,000
Foothill College Total:		\$450,000
Las Positas College	1000 - Instructional Salaries	\$15,000
Las Positas College	3000 - Employee Benefits	\$2,600
Las Positas College Total:		\$17,600
Monterey Peninsula College	5000 - Other Operating Expenses and Services	\$10,000
Monterey Peninsula College Total:		\$10,000
Ohlone College	5000 - Other Operating Expenses and Services	\$5,245
Ohlone College Total:		\$5,245
TOTAL PROJECT COST:		\$517,845



2017 © California Community Colleges