



Career Technical Education Update

SMUHSD Board Meeting
March 23, 2017



“

Modern CTE—often called “new vocationalism”—is a far cry from traditional [Vocational Education]. No longer isolated “shop” classes for students showing little future promise, CTE coursework is now strategic and sequenced. It entails skill building for careers in fields like information technology, [green construction], and advanced manufacturing. Secondary CTE is meant to be a coherent pathway, started in high school, into authentic technical education options, and credentials, at the postsecondary level.

“Career and Technical Ed in HS”

Thomas Fordham Institute (April 8, 2016)



■ Presentation Overview

1. SMUHSD - CTE Program Overview and Outcomes

1. CTE Incentive Grant - Investments to sustain and grow programs (2016-19)

1. Questions and Answers



1.

SMUHSD

CTE Program Overview



Demand for “Middle-Skill” Jobs

27 percent of people with post-secondary licenses or certificates - credentials short of an associate's degree - earn more than the average bachelor's degree recipient.

-Pathways to Prosperity, Harvard GSE Study, 2011

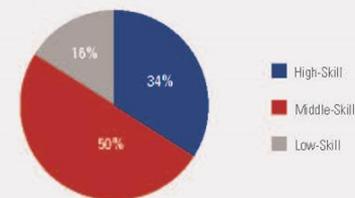


SAN MATEO UNION HIGH SCHOOL DISTRICT

California's Forgotten Middle

Middle-skill jobs, which require education beyond high school but not a four-year degree, make up the largest part of America's and California's labor market. Key industries in California are unable to find enough sufficiently trained workers to fill these jobs.

Jobs by Skill Level, California, 2012

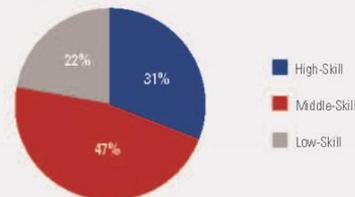


Demand for Middle-Skill Jobs is Strong

Fifty percent of all jobs in 2012 were middle-skill.

Source: NSC analysis of Bureau of Labor Statistics Occupational Employment Statistics by State, May 2012.

Job Openings by Skill Level, California, 2010-20

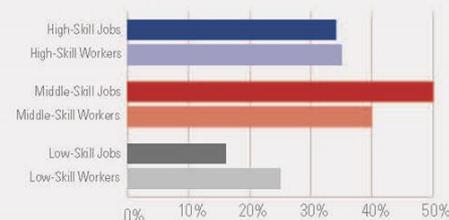


Demand for Middle-Skill Jobs Will Remain Strong

Between 2010-2020, 47 percent of job openings will be middle-skill.

Source: NSC analysis of long-term occupational projections from state labor/employment agency.

Jobs and Workers by Skill Level, California, 2012



A Middle-Skill Gap

Middle-skill jobs account for 50 percent of California's labor market, but only 40 percent of the state's workers are trained to the middle-skill level.

Source: NSC analysis of Bureau of Labor Statistics Occupational Employment Statistics by State, May 2012 and American Community Survey data, 2012.



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Priority Sectors for the Community Colleges in the SF & San Mateo Region

Priority Sectors in the San Francisco & San Mateo Region

- Energy, Construction & Utilities
- Health
- Information & Communication Technologies/Digital Media

Emergent Sectors

- Life Sciences/Biotech
- Small Business

Other Sectors with Support

- Advanced Manufacturing
- Advanced Transportation & Renewables
- Agriculture, Water & Environmental Technologies
- Global Trade & Logistics
- Retail/Hospitality/Tourism



SMUHSD CTE Pathways

Industry Sector	Program - Site(s)
ART, MEDIA & ENTERTAINMENT	3D Game Design - BHS Animation - CHS Art & Multimedia - SMHS Art of Video - AHS, BHS, CHS, HHS, MHS, SMHS Audio Production - CHS, HHS Digital Photography - AHS, BHS, CHS, HHS, MHS, SMHS Journalism - AHS, BHS, MHS, PAHS, SMHS Publications - BHS, CHS, HHS, MHS, SMHS
BUILDING TRADES & CONSTRUCTION	Woodworking - MHS Green Construction - CHS
EDUCATION & CHILD DEVELOPMENT	Child Development - HHS



SMUHSD CTE Pathways

Industry Sector	Program - Site(s)
ENGINEERING & ARCHITECTURE	Architectural Design - BHS, MHS Engineering Tech. - AHS, MHS
HEALTH SCIENCE & MEDICAL TECHNOLOGY	Biotechnology - AHS, MHS, SMHS
HOSPITALITY, TOURISM & RECREATION	Culinary Arts - AHS, BHS, CHS, MHS, PAHS, SMHS
INFORMATION & COMMUNICATION TECHNOLOGY	Computer Science - BHS, CHS, HHS, MHS, SMHS
MANUFACTURING & PRODUCT DEVELOPMENT	Exploring Technology - BHS



Articulation - Community College Credit

ARTICULATION AGREEMENTS			
SMUHSD Course	Community College	Community College Course	Credit
Architectural Design I	Cañada	ARCH 110: Int. Arch. Drafting	3.0
Architectural Design II	CSM	DRAF 121- CAD I	3.0
Art of Video/Adv.	CSM	DGME 113 - Digital Video Prod.	3.0
Child Development 1-2	Skyline	ECE 201 - Child Development	3.0
Child Development 3-4	Skyline	ECE 210 - ECE Principles	3.0
Culinary Arts Pathway	Mission		5.0
Culinary Arts @ PAHS	Skyline	(dual enrollment)	9.0
Green Construction	Skyline	(dual enrollment)	3.0

In 2015-16, 274 students received college credit for CTE courses they took at SMUHSD schools.



Enrollment Data 2013-16

Number of Students Enrolled in CTE Pathways

Pathway	2013-14	2014-15	2015-16
Architectural Design	96	87	116
Biotechnology	414	488	436
Cabinetry, Millwork and Woodwork	54	45	53
Child Development	251	239	235
Design, Visual and Media Arts	568	834	930
Energy and Power Technology	0	31	0
Engineering Technology	86	105	123
Food Service and Hospitality	627	666	672
Healthcare Operational Support Services	50	36	0
Machining and Forming Technology	106	100	71
Production and Managerial Arts	42	78	94
Residential and Commercial Construction	52	19	16
Software and System Development	0	0	431
TOTAL	2346	2728	3177



Subgroup Enrollment Data 2015-16

Number of Students Enrolled in CTE Pathways				
Pathway	Latino	EL	Economically Disadvantaged	Homeless/ Foster Youth
Architectural Design	12	37	4	0
Biotechnology	83	110	63	2
Cabinetry, Millwork and Woodwork	18	30	12	0
Child Development	81	83	36	0
Design, Visual and Media Arts	277	271	133	3
Engineering Technology	23	34	14	0
Food Service and Hospitality	266	275	149	4
Machining and Forming Technology	9	13	6	0
Production and Managerial Arts	31	25	18	0
Residential and Commercial Construction	9	5	1	0
Software and System Development	54	134	41	1
TOTAL	863	1017	477	10



Completer Data 2013-16

Number of Students Completing CTE Pathways			
Pathway	2013-14	2014-15	2015-16
Architectural Design	23	21	21
Biotechnology	95	133	61
Child Development	46	22	7
Design, Visual and Media Arts	62	24	44
Engineering Technology	11	11	13
Food Service and Hospitality	97	132	98
Healthcare Operational Support Services	0	7	0
Residential and Commercial Construction	6	4	0
Software and System Development	0	0	106
TOTAL	340	354	350



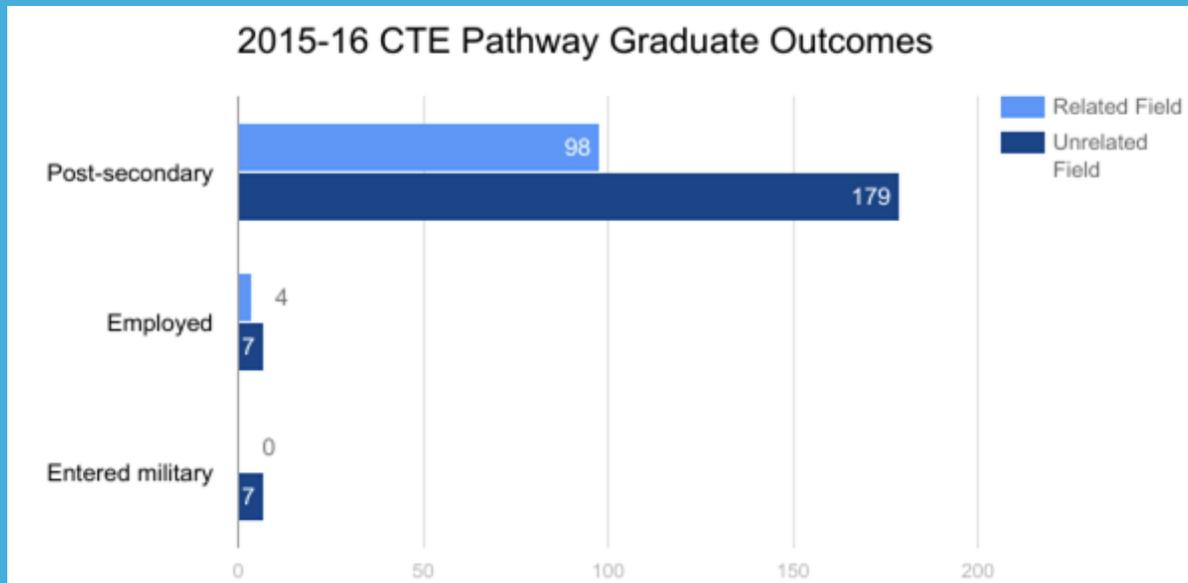
Subgroup Completer Data 2015-16

Number of Students Completing CTE Pathways				
Pathway	Latino	EL	Economically Disadvantaged	Homeless / Foster Youth
Architectural Design	1	1	0	0
Biotechnology	8	13	9	0
Child Development	1	3	0	0
Design, Visual and Media Arts	9	11	2	1
Engineering Technology	1	0	0	0
Food Service and Hospitality	24	38	29	1
Software and System Development	2	30	6	0
TOTAL	46	96	47	2



Data - CTE Pathway Graduate Outcomes

In 2015-16, 341 graduates completed a CTE pathway. Of those, 98 (29%) went on to major in a related field; 179 (52%) continued their education in a different field.



CTE Highlights



CTE Highlights



2.

CTE Incentive Grant 2016-2019



CTE Incentive Grant - Award Amount

Year	Award Amount	Matching Requirement
2016-17	\$1,266,990 = 50% of total allocation + additional \$133k	1 : 1
2017-18 (if renewed)	40% of total allocation	1.5 : 1
2018-19 (if renewed)	10% of total allocation	2 : 1



CTE Incentive Grant - Budget Items

1. Teacher Professional Development

- Time to revise and update course outlines to align to 2013 CTE standards and articulate to community colleges
- Teacher externships and training by industry professionals
- Stipend for CTE Credentialing
- Regional CTE Teacher Institute in summer

1. Equipment Upgrades and New Equipment

2. Additional sections of advanced computer science

3. One section of advanced manufacturing

4. Career Counselors (at sites) and Career Coordinator (at district)

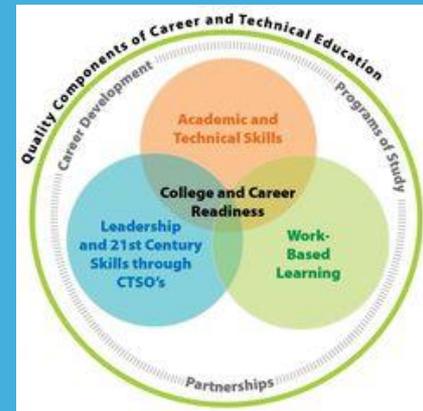


CTE Incentive Grant - Requirements

1. **Pathway** must have a sequence of at least two full-year courses that provides students with rigorous content in one of the 15 state-recognized industry sectors found here.
2. Teacher must possess a **designated-subject (CTE) credential** or single-subject credential (in Home Economics, Industrial Arts, Business, Agriculture, Industrial and Technology Education) which authorizes the teaching of the CTE course(s) to which assigned.
3. Pathway must meet (or be working toward meeting) all of the **11 Elements of a High-Quality CTE Pathway** (extensive business and industry involvement, work-based learning experiences, leadership embedded in curriculum, curriculum aligned to CTE standards, etc.)



Next Steps



1. High quality, aligned, accessible curriculum
 - Revise course outlines to align with the 2013 CTE Model Curriculum Standards and articulate to community colleges
 - Continue to encourage teachers to get CTE credentials
 - Continue PD and support around embedding work-based learning experiences and making curriculum accessible to all students
 - Continue to upgrade equipment
2. Provide students with more career guidance
 - Connect career coordinator positions to CTE
 - Investigate the possibility of establishing career-oriented academies in the future



3.

Questions and Answers



4.

Appendix



Career Planning in High School

Video: *Flipping the College Decision-Making Paradigm*, by Dr. Diane Hollems, Co-founder of the *Get Focused...Stay Focused!*[™] Initiative

This video highlights the problem with our current “college for all” approach and points to the remedy: More career planning in high school. Students who enter college with an informed declared major are twice as likely to graduate as those who do not.



For Reference: Local Employment Data

Employment Development Department [Regional Planning Unit Summary Bay-Peninsula](#), Sep 2016

Hybrid Jobs [Report](#): Blurring Lines - How Business and Technology Skills Are Merging to Create High Opportunity Hybrid Jobs, by General Assembly and Burning Glass Technologies, 2015

You are invited! SMCOE [Steering Committee Meeting](#), March 22, 2017 4-6pm



California's Career Technical Education:

Preparing Students for the 21st Century and Beyond

