CAREER & TECHNICAL EDUCATION Including: SEATTLE SKILLS CENTER

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CTE ANNUAL BOARD REPORT 2016-2017

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CTE™ Learning that works for Washington

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Introduction

This Career and Technical Education (CTE) Annual Board Report provides an overall description of the CTE program in Seattle Public Schools; a report on indicators for enrollment trends, equitable access to courses, and credit-earning opportunities; and a description of strategies that will be employed to improve the CTE program. It is the policy of the Seattle School Board to annually review and approve the district's plan for the design and delivery of its Career and Technical Education program (SPS Board Policy No. 2170).

This 2016-2017 CTE Annual Board Report includes a description of strategies for improving the CTE program, whereas previous annual reports did not include such public commitments to carrying out specific strategies. The 2017-2018 and subsequent annual reports will include progress and outcomes for each of the identified strategies and rationales for revisions to the employed strategies.

Program Description

Program Design

Career and Technical Education is a planned program of courses and standards that begins with exploration of career options, supports academic and life skills, and enables achievement of high academic standards, leadership development, and preparation for career and college. A sequence of courses can provide students with employability skills for internships, apprenticeships, preparation for industry certification, and pursuing career options in college.

Through CTE in Seattle Public Schools (SPS), students explore and prepare for career opportunities and learn how other subjects are used in real-life. Students gain leadership skills through activities in their classrooms and participation in Career and Technical Student Organizations (CTSO's) such as DECA (Marketing), Future Business Leaders of American (FBLA), Skills USA, Family Career and Community Leaders of America (FCCLA), HOSA-Future Health Professionals, and First Robotics. CTE prepares students to succeed in high demand occupations in the 21st century competitive global economy by promoting quality instructional partnerships with business, industry, and the post-secondary organizations. Courses are formally revised and submitted to the Office of the Superintendent of Public Instruction for re-approval every four years to remain current with industry standards.

Nationally, CTE is organized around the 16 *Career Clusters*. In Seattle Public Schools, these are organized and consolidated into the following pathways, with central office certificated specialists to support current programs, research new programs and initiatives, remain OSPI compliant, and work with industry partners for advice to keep our programs contemporary:

- ☐ Arts, Communications, and Media
- ☐ Business, Marketing, Information Technology and Computer Science
- ☐ Environmental Science and Agriculture
- ☐ Health & Human Services, and Family & Consumer Science
- ☐ Science, Engineering, and Industry

Within these pathways, examples of our high-quality, award-winning, and high-profile programs include:

- ☐ C89.5 KNHC Radio Station program at Nathan Hale
- ☐ Film/Video at Ballard, Center School, Cleveland, Hale, and Franklin
- ☐ *ProStart* Culinary at Roosevelt, Ingraham, West Seattle, and Skills Center @ Rainier Beach
- ☐ Photography at Garfield and AP Photography at Ballard
- ☐ Automotive Tech at Ingraham, West Seattle, and Skills Center
- ☐ Marketing at Ballard, Garfield, Hale, Roosevelt, and West Seattle
- ☐ Graduation, Reality and Dual-Role Skills (GRADS) Teen Parent Program at South Lake
- ☐ Microsoft IT Academy at Sealth and Ingraham
- ☐ Biotech at Ballard
- ☐ Biomed at Cleveland
- ☐ AP Psychology at Chief Sealth, Roosevelt and IB Psychology at Ingraham

STEM (Science, Technology, Engineering, and Math)

STEM is a priority area in CTE, with examples such as Aerospace Science and Engineering, Construction/Pre-Apprenticeship, Medical Careers and Medical Assisting, Animation and Gaming, and Maritime Science and Engineering. The Project Lead the Way (PLTW) Biomedical program exists at Cleveland, and the PLTW Engineering programs exist at Ballard, Cleveland, Franklin, Garfield, and Roosevelt High Schools. PLTW Gateways to Technology is provided at Denny, Madison, Mercer, McClure, South Shore, Washington, and Whitman Middle Schools. Other STEM courses include KNHC – Radio/Multimedia Broadcasting at Nathan Hale High School; Woods at Ballard, Franklin, and West Seattle High Schools; Biotechnology at Ballard High School, and Computer Science at all comprehensive high schools. Computer Science courses have expanded in part due to support from the Microsoft-sponsored TEALS (Technology Education And Literacy in Schools) program, which provides teacher mentoring and co-instruction from qualified industry professionals.

Academies

Academy structures provide coherence in CTE programs and connect students and teachers to industry professionals. Examples in SPS include Seattle Academy Foundation support for the NAF Academy of Finance at Chief Sealth and Ballard High Schools and the NAF Academy of Hospitality and Tourism at Chief Sealth High School. Ballard High School provides the Maritime and Biotechnology Academies, and Franklin High School provides the Public Service Academy

and the CREATE Academy. Cleveland High School supports an academy model through its School of Life Sciences and School of Engineering and Design.

Seattle Skills Center

Skills Center programs are half-day programs open to all SPS students aged 16-20. Students attend their comprehensive high school and are provided transportation to Skills Center sites co-located on SPS campuses for 2½ hour sessions of their school day. Currently, SPS offers 13 courses at seven sites:

Health & Human Services Pathways

- ☐ Administrative Medical Office Assistant *(Medical office work in clinics andhospitals)*
- ☐ Health Sciences / Medical Assisting *(Doctor and patient assisting in doctor offices, clinics, allied health professions)*
- ☐ Nursing Assistant *(Patient care in Skilled Nursing Facilities)*
- ☐ Culinary Arts *(Training for food preparation in a commercial kitchen)*

Science, Engineering, and Industry Pathways

- ☐ Aerospace Science & Technology *(Aerospace/aircraft manufacturing)*
- ☐ Auto Body Collision *(Auto body repair)*
- ☐ Automotive Technology *(Automobiles and their systems and engines, maintenance and repair)*
- ☐ Construction Trades *(Explore all of the construction trades and build structures)*
- ☐ Firefighting & Emergency Medical Services *(Firefighter training, EMS/Ambulance and First Response teams)*
- ☐ Maritime Science & Technology *(Maritime/vesselmanufacturing)*

Technology Pathways

- ☐ Information Technology Specialist: Computer Networking: *(Network programming, computer hardware)*
- ☐ Digital Animation & Game Design *(2D & 3D animation, programming, how to design video games)*
- ☐ Multimedia Broadcasting *(Radio station, on- and off-air operations)*

For the 2017-18 School year, the following Skills Center courses are planned for addition:

- ☐ Maritime Operations & Technology *(Prepares students for careers in the maritime industry: cargo ships, fishing boats, Washington State Ferries, tug boats, etc.)*
- ☐ Computer Programming *(Computer languages to create software and programs)*
- ☐ Interactive Media Arts and Technology *(Prepares students to apply artistic, technical principles to the communication of information and ideas through the use ofmulti-media technology)*

☐ Teacher Academy: Careers in Education *(Provides opportunities for students to get experience working in classrooms and prepares them for success in post-secondary teaching programs and careers)*

In addition to school-year programs for students aged 16-20, summer Skills Center courses are introductory courses available to all incoming 9th grade through 12th grade students. Students can earn 0.5 to 1.0 credits, depending on their schedule. One noteworthy addition to the summer Skills Center offerings for 2017 is the "9th Grade Advantage" course, designed to prepare students for high school in the summer before they enter 9th grade and to help them explore careers. With new high school graduation requirements, this will provide a valuable time for students to earn 0.5 credit and begin completing their required High School and Beyond Plan. The following are tentatively planned summer Skills Center courses for 2017:

- 9th Grade Advantage, *(The "9th Grade Advantage" course will help prepare incoming 9th graders for high school, and includes training in computer literacy, introduction to career options, time to focus on their High School and Beyond Plan, and a chance to earn a .5 HS CTE credit. Will include field trips to businesses in Seattle representing a wide range of industries and careers. This course is intended to give students a jumpstart to being "Seattle Ready.")*

☐ Intro to Career Choices, grades 10-12 (*introduction to career options, computer skill, and work on High School and Beyond Plan.)*
☐ Intro to Aerospace Science & Technology *(Aerospace/aircraft manufacturing)*
☐ Intro to Automotive Technology *(Vehicle maintenance)*
☐ Intro to Computer Applications *(Microsoft Office applications IE: Word, Excel, etc.)*
☐ Intro to Construction Trades *(Building tiny houses, carpentry, tool skills)*
☐ Intro to Culinary Arts *(Food preparation)*

- Intro to Digital Animation & Game Design ("AIE CyberCamp": *2D and 3D animation and game design)*

☐ Intro to Engineering *(Problem-based learning, modeling with materials and computer software)*
☐ Intro to Firefighting & Emergency Medical Services *(Firefighting and EMS/ambulance/first response)*
☐ Intro to Graphic Arts *(Computer-based design and production)*
☐ Intro to Maritime Science *(Maritime/vessel manufacturing)*
☐ Intro to Medical Careers *(Broad spectrum of medical careers basic skills)*
☐ Intro to Multimedia Broadcasting *(Radio and digital media, on- and off-air operations)*
☐ Intro to Maritime Operations *(working on ships, ferry boats, fishing industry)*
☐ Intro to Interactive Media Arts and Technology *(Prepares students to apply artistic, technical principles to the communication of information and ideas through the use of multi-media technology)*

☐ Intro to Teacher Academy: Careers in Education *(Provides opportunities for students to get experience working in classrooms and prepares them for success in post-secondary teaching programs and careers)*

Community Partners

CTE programs are supported by strong community partners, including the Port of Seattle (King County), the City of Seattle Office of Economic Development, the National Academy Foundation, the Seattle Academy Foundation, Architecture Construction and Engineering (ACE) Mentors, the Manufacturing Industrial Council (MIC), and the Seattle Colleges. Additionally, the General Advisory Council (GAC) provides support and guidance for the overall CTE program and the Seattle Skills Center, and each program has Program Advisory committees. The following are the Program Advisories:

- ☐ Ballard Biotech
- ☐ Ballard Maritime
- ☐ Business/Marketing/IT Advisory Board
- ☐ Family & Consumer Science and Health & Human Services Advisory Board
- ☐ Science, Engineering & Industry Advisory
- ☐ Aerospace and Welding Advisory
- ☐ Academy of Finance Board
- ☐ Academy of Hospitality and Tourism Board
- ☐ KNHC Radio Advisory Board
- ☐ Horticulture Advisory Board

Report

CTE enrollment trends

Overall CTE enrollment has been fairly stable, with increases in middle school STEM CTE enrollment over the last few years. High school CTE enrollment has remained between 11-12% of the total general education enrollment, and middle school CTE enrollment has grown to nearly 3% of the total general education enrollment. Seattle Public Schools has much lower CTE enrollment than the 18.4% high school and 5.6% middle school statewide averages. Additionally, Skills Center enrollment is 1.1% of overall SPS 11th and 12th enrollment; while the statewide average Skills Center enrollment is 3.5% of overall 11th and 12th grade enrollment.

CTE ENROLLMENT EXPRESSED IN FULL-TIME EQUIVALENCY UNITS (FTE)

YEAR	HIGH SCHOOL	MIDDLE SCHOOL	SKILLS CENTER		TOTAL
			SCHOOL YR	SUMMER	
2009-2010	1501.63	18.37			1520
2010-2011	1464.49	26.78			1491.27
2011-2012	1464.99	50.67			1515.66
2012-2013	1485.54	72.41	50.50		1608.45
2013-2014	1556.49	102.55	65.27	22.47	1746.78
2014-2015	1517.23	143.97	72.07	27.52	1760.79
2015-2016	1539.71	196.71	67.55	37.73	1841.70
2016-2017	1486.21	212.96	69.25	**	1768.42**

SKILLS CENTER ENROLLMENT (HEADCOUNT)

Year	School Yr (Sept/June)	Summer
2013-14	111/95	263
2014-15	123/116	279
2015-16	88/118	345
2016-17	111/105	505*

*2016-2017 Summer enrollment is preliminary

CTE ENROLLMENT AS A % OF TOTAL HIGH SCHOOL & MIDDLE SCHOOL ENROLLMENT

Year	HIGH SCHOOL CTE FTE/ HIGH SCHOOL FTE		MIDDLE SCHOOL CTE FTE/ MIDDLE SCHOOL FTE	
	SPS	WA STATE	SPS	WA STATE
2011-2012	11.51%	18.0%	0.78%	2.6%
2012-2013	11.47%	18.3%	1.08%	3.7%
2013-2014	11.99%	18.3%	1.49%	4.2%
2014-2015	12.02%	18.3%	1.71%	4.6%
2015-2016	11.67%	18.4%	2.77%	5.3%
2016-2017	11.08%	18.4%	2.81%	5.6%

HIGH SCHOOL CTE ENROLLMENT AS A PERCENTAGE OF TOTAL HIGH SCHOOL ENROLLMENT, COMPARED WITH BENCHMARK DISTRICTS

DISTRICT	HIGH SCHOOL CTE FTE/ HIGH SCHOOL FTE
Seattle	11%
Spokane	17%
Everett	19%
Bellevue	12%
Highline	14%
Kent	20%
Tacoma	23%
Federal Way	19%

Access to CTE programs: Enrollment based on demographics

In 2015-16, participation in CTE coursework by demographic subgroups was similar to the proportion of these subgroups in the overall school district. In the table below, ***CTE Participants*** are students who enrolled in one or more CTE courses at any level (total = 12,041 students). ***CTE Concentrators*** are students who enrolled in two or more CTE courses beyond the exploratory level (total = 4,435 students).

PARTICIPATION IN CTE AND SKILLS CENTER COURSEWORK BY DEMOGRAPHIC GROUPS

Subgroup	% of CTE Participants	% of CTE Concentrators	% of Overall District
Male	52%	57%	52%
Female	48%	43%	49%
American Indian / Alaskan Native	1%	1%	1%
Asian	19%	20%	15%
Native Hawaiian / Other Pacific Islander	1%	1%	1%
Black / African American	19%	19%	16%
Hispanic / Latino of any race(s)	13%	11%	12%
White	41%	44%	47%
Two or More Races	6%	5%	9%
Limited English	11%	9%	13%
Migrant	1%	0%	0%
Special Education	13%	13%	14%
Low Income	45%	42%	36%

CTE Student Performance Indicators

Performance of ***CTE Concentrators*** (students who enrolled in two or more years of CTE courses beyond the exploratory level) is assessed by the secondary performance measures set by the Carl D. Perkins Career and Technical Education Act of 2006. The *Reading/Language Arts* and *Mathematics* measures are the percentage of CTE Concentrators who passed the respective Smarter Balanced Assessment. The *Technical Skill Attainment* measure is the percentage of CTE Concentrators who took and passed an industry-designed assessment specific to the course program area. The *Secondary School Completion* measure is the percentage of CTE Concentrators who attained a high school diploma or GED in 2015-16, and the *Graduation Rate* measure is the percentage of CTE Concentrators who were included as graduated in the State's computation of its graduation rate.

CARL D. PERKINS PERFORMANCE MEASURES AND LEVELS OF ATTAINMENT

Performance Measure	2015-16 Level of Performance	Met Target Performance Level?
Reading/Language Arts	82.21%	Yes
Mathematics	80.54%	Yes
Technical Skill Attainment	63.43%	No
Secondary School Completion	91.13%	Yes
Graduation Rate	90.22%	Yes

While most performance targets of CTE Concentrators were met in 2015-16, the target for *Technical Skill Attainment* (88%) was not met. This is largely due to the low number of opportunities provided for industry-recognized certifications (IRC's). A goal of the CTE program in 2016-17 and beyond is to increase the number of IRC's and nationally recognized assessment opportunities provided to students.

Industry-recognized credentials, dual credit, and cross-credit

Industry-recognized certificates (IRC's)

Below is a partial list of industry-recognized certificates and nationally recognized assessments that are available for each course.

AVAILABLE INDUSTRY-RECOGNIZED CERTIFICATES AND ASSESSMENTS

Course	Certification/State/National Recognition
Aerospace Engineering	Core +
AIE Animation & Gaming	AIE Technical College
American Sign Language (ASL)	Transfer credit with Seattle (Community) Colleges
AP Art	AP 2-D and AP 3-D
AP Economics	AP Economics at Ballard and Garfield
AP Psychology	AP Psychology at Chief Sealth, Ingraham, and Roosevelt
Automotive	Automotive YES –ASE exit exam
Cisco 1-4	CCNA
Computer Science	AP Computer Science
Construction/Pre-Apprenticeship	Direct entry in Apprenticeships
Family Health, Nursing Assistant, Medical Assisting, Family Relations	CPR and First Aid, HIV/AIDS
Human Development; Child/Parenting	Merit Certification for Learning and Transfer credit to Seattle Central College
IB Psychology	IB Psychology
IT Essentials	A+ and Net+
Marketing	National Professional Certification in Customer Service
Medical Careers in Skills Center	NAC – Certified Nurse Assistant, HIPPA, First Aid/CPR
Microsoft Office Specialist	MOS Core; MOS Expert
NAF Academies	Nationally Recognized End of Course Exams
Project Lead the Way	Nationally Recognized End of Course Exams
Pro Start Food Production	Certificate of Recognition and Achievement
Precision Testing	Certifications for most of the CTE courses

Dual credit: College credit in high school CTE courses

Dual credit is earning college credit while in high school classes. Through a Tech Prep articulation agreement with Seattle Colleges, students can earn transfer credit that can be used if students enter Seattle Colleges any time after graduating high school.

TECH PREP DATA 2011-2015

YEAR	TRANSCRIBED STUDENTS
2012-13	857
2013-14	890
2014-15	1164
2015-16	1214

Cross-credits: Additional academic credit provided by CTE courses

Cross-credit is earning an academic credit that meets two subject-specific graduation requirements. Multiple CTE courses are cross-credited to other academic subject areas. See the table below.

NUMBER OF CTE CROSS-CREDITED COURSES, BY SUBJECT AREA

	Number of Cross-Credited Courses Available in the SPS	Number of Cross-Credited Courses Provided in
Total CTE cross-credited courses	113	80
Fine Arts	25	20
Math	30	19
Science	45	30
Social Studies	12	9
World Languages	4	2
Health	2	2
Language Arts	1	0

Plans for Improving Design and Delivery of CTE Programs

Strategy 1: Evaluate CTE program offerings to provide viable career pathways for future and current workforce demands

Workforce data tools: Seattle Public Schools provides excellent CTE courses; however, we must ensure that these courses prepare students for living wage careers. One challenge has been the availability of workforce trend data that is reliable, understandable, and actionable. In response to this challenge, Seattle Public Schools partnered with WA STEM in their efforts to convene workforce data providers to develop data reports and tools that would be specifically geared to a K-12 audience, including CTE Directors, principals, teachers, and counselors. Four design meetings were held in 2016-17 with prototype tools to be released in late summer of 2017. These tools will become regularly referenced resources in the ongoing analysis of the CTE programs.

General Advisory Council: As directed by the Office of the Superintendent of Public Instruction, each school district maintains a General Advisory Council (GAC) to provide industry-based guidance for CTE programs. SPS holds regular meetings with its GAC, and members are very supportive of promoting CTE programs, but the active membership is low and is could be more representative of the wide variety of industries and career fields in the City of Seattle and region. Additionally, the SPS GAC is strengthened by participation of labor representatives as well as management representatives from career sectors. On April 27, 2017, the Seattle Chamber of Commerce hosted SPS representatives at a K-12 workshop with CEO's and Human Resource Directors, giving SPS the opportunity to receive feedback on how to diversify and improve the function of the SPS GAC. Some recommendations included recruiting GAC members from the high demand workforce sectors as well as the Seattle Region Partnership (an initiative of the Chamber of Commerce) and forming subcommittees of the GAC for particular initiatives. At the June, 2017 GAC meeting, the members will review these recommendations and establish a timeline for activities between June-December, 2017 to diversify active membership and improve the function of the GAC. A renewed charter will be developed in fall of 2017, and workforce data tools developed by WA STEM and SPS will be used by the GAC at least annually.

School based decision-making: While the central office CTE department evaluates, supports, and provides oversight, individual CTE course and program decisions are made at the school level. Particularly this year, as schools faced difficult decisions to reduce staffing budgets, CTE courses were reduced. These decisions are complex, and principals, staff, and Building Leadership Teams should include consideration of the same evaluation criteria used by the GAC

and central office CTE department. By February of 2018, prior to the next budgeting cycle, tools and processes for evaluating CTE programs across the district will be adapted and provided to schools for use in their budgeting, staffing, and scheduling decisions.

Strategy 2: Increase rigor through industry-recognized credentials, dual credit, and cross-credit opportunities

Industry-recognized credentials: While most performance targets were met in 2015-16 (see *CTE Student Performance Indicators*, p. 8) the target for *Technical Skill Attainment* was not met. This is largely due to the low number of students who took advantage of assessments for industry-recognized certifications (IRC's). Historically in the SPS CTE Program, individual teachers have decided whether to offer certifications and assessments and, if so, which assessments to administer. A goal of the CTE program in 2016-17 and beyond is to increase the number of IRC's and nationally recognized assessment opportunities provided to students. Therefore, in the January, 2017 All-CTE Teacher meeting, teachers in each program area set goals for providing common opportunities for certifications and assessments. In 2017-18, teachers will continue to work with CTE specialists to identify appropriate IRC's and assessments to provide students opportunity to demonstrate proficiency. These will be incorporated into conditional teacher certification training plans, and budgets will be prioritized to cover costs of administering the certificationassessments.

Cross-credited courses: *Cross-credited* courses are courses that enable students to earn two subject-specific graduation requirements. For example, a Biotechnology course may be counted for a CTE credit and/or a Science credit. These courses are valuable for two reasons: they provide more flexibility in how students meet graduation requirements, and they ensure rigorous academic standards are met through CTE courses because they must be jointly approved by the CTE department and the cross-crediting academic subject area department. The largest number of cross-credited courses are with Science and Fine Arts (see *Cross-Credits*, p. 10), and possibility exists for additional cross-credited courses in other subject areas. To ensure a rigorous process, a Secondary Course Catalog committee will be convened three times prior to the December 1, 2017 submission deadline for SPS course cross-credit approval. The first meeting will occur this spring, and the second and third meeting will occur in the fall. At the first meeting, the committee will review current offerings and make recommendations for areas to explore for increased cross-creditofferings

Dual credit courses: *Dual credit* courses are courses that enable students to earn high school and college credit at the same time. For example, Running Start or College in the High School are two common methods typical in other academic subject areas. For CTE courses, Tech Prep

is a national model for granting dual credit. Through a Tech Prep articulation agreement with Seattle Colleges, students can earn transfer credit that can be used if students enter Seattle Colleges any time after graduating high school (See *Tech Prep*, p. 10). Unfortunately, federal funding for this program stopped over four years ago, and Tech Prep consortia across the state have been disbanding. Seattle Colleges and Seattle Public Schools continue to support this important model, but continuing to fund the infrastructure at the colleges is a challenge. The workforce education deans from the three Seattle Colleges campuses and the CTE department met in spring of 2017 to explore alternative models for granting dual credit. Two potential models have been proposed: increasing the use of Running Start for Professional/Technical courses and the possible development of a custom memorandum to adapt the Tech Prep model to be less costly while maintaining rigor. These will be evaluated through the 2017-18 school year while the existing Tech Prep model continues, and possible new approaches will be used in the 2018-19 school year.

Strategy 3: Expand internships and Work-site learning opportunities

Seattle supports a vibrant and diverse economy, with opportunities for students to explore a variety of careers. The Port of Seattle and the City of Seattle have recently launched initiatives to provide internships and other career connected learning experiences for students. SPS has a strong history of supporting academic credit-bearing internships through the CTE Work-site Learning (WSL) model. However, the typical number of internships with employers, managed through the central office CTE Department, has been only about 40-50 per year. The central office CTE Department has prioritized expanding these opportunities by formally partnering with new organizations, such as the Port of Seattle, and by reorganizing SPS staff roles to improve capacity. The anticipated number of internships for 2017 has exceeded targets in this first year of having this goal, with over 220 credit-bearing internships expected. In the 2017-18 school year, the CTE Department will provide more technical assistance and administrative support for schools to individually coordinate and sustain increased internship and WSL opportunities.

Strategy 4: Improve facilities and viability of the Seattle Skills Center

Currently, SPS uses a distributed model to offer Skills Center courses, co-locating programs at comprehensive high school campuses. This model offers synergy between exploratory courses in the high schools and more advanced preparatory Skills Center courses. In partnership with the Port of Seattle, SPS is conducting a feasibility assessment for additional alternative models, including the potential of additional facilities for Seattle Skills Center programs. Results of this report will be available in summer of 2017, with recommendations for possible investments

potentially made by the Port of Seattle in the fall/winter of 2017. SPS will use this report to inform its application for capital grant funds from OSPI on the regular annual Skills Center Capital grant cycle.

Strategy 5: Improve central office program administration and support to schools

Staffing organization: The central office CTE department has begun a reorganization and reduction in size to improve efficiency and quality of service and to shift more resources to schools. From 2015-16 to 2017-18, the size of the staffing will be reduced by 25%. This reorganization included the creation of the Pathways and Internship Coordinator in February of 2017, which has already resulted in an increase of academic credit-bearing internships from an annual average of 40-50 to an estimated 220 for the summer of 2017-18. Additional credit-bearing internships will be expanded during the 2017-18 school year.

Budgeting: The CTE department supports programs by allocating a classroom budget to each CTE teacher. Typically, these budgets have been set based on historical figures rolled forward year to year, with adjustments made based on enrollment-based funding. This approach causes more reactive spending on an individual classroom basis, rather than strategic planning and investing for the overall program. In 2016-17, the CTE Department began shifting towards a value-based budgeting process, through which facility, equipment, materials, and professional development needs are prioritized for the following year. This will increase transparency and stability and enable more strategic planning. In early fall of 2017, when enrollment figures are known, final budgets for the 2017-18 school year will be set based on the prioritization that is occurring in the spring of 2017.

Strategy 6: Expand Partnerships and Community Outreach

Partnerships: SPS partnered with the City of Seattle Office of Arts and Culture to jointly pursue and receive grant funding from the Paul G. Allen Family Foundation to launch a Media Arts program for 2017-18. This model of establishing partnerships to co-develop new programs and possibly identify new facilities will be a priority for expansion of the Seattle Skills Center, as well as CTE programs in comprehensive high schools in 2017-18 and beyond. Additional examples of successful partnerships are the Maritime Operations and Technology program, planned for 2017-18 at the Seattle Maritime Academy through partnership with Seattle Central College, and the expansion of the summer internships offered in partnership with the Port of Seattle. SPS also values partners in organized labor, such as the GAC leadership provided by members of the Pacific Northwest Regional Council of Carpenters.

Family outreach: Improved outreach and partnership with families and students is critical for continued improvement in the overall CTE program. Student focus groups have indicated they are not fully aware of the existing high quality and engaging opportunities, therefore materials will be developed in fall of 2017 for marketing and communicating directly to students and families. Surveys and other community engagement strategies with families to solicit input will also be used annually to prioritize course offerings in the summer and during the school year and to guide the development and direction of new CTE course offerings.

Appendix A: Central Office CTE Staff

Administrators

Director, Career and College Readiness .....Dan Gallagher
CTE Program Manager ..... Jane Hendrickson (*Interim*)
Career Pathways and Internship Coordinator ..... *Vacant*

Support Staff

Fiscal Analyst..... Wendy Durham
Administrative Assistants.....Mark Daniels, Robyn Redfield
Office Specialist.....Hilary Gray

Certificated Specialists

Academies and Work-Based Learning ..... *Vacant*
Agriculture, Arts, Media, Science & Engineering..... Robert Austin
Business, Marketing, & Information Technology .....Maria Herrera-Lofton
Health & Human Services and Family & Consumer Science.....Susan Grant
Career & Guidance Services..... Myrna Muto
State and Federal Reporting (.2 FTE) .....Patsy Ethridge-Neal

Skills Center

Skills Center Principal.....Dan Golosman
Media Arts Project Manager ..... Kate Baker
Registrar ..... Deanna Gallichan

Appendix B: Career Clusters and Pathways

Each Career Cluster™ represents a distinct grouping of occupations and industries based on the knowledge and skills they require. The 16 Career Clusters™ and related Career Pathways provide an important organizing tool for schools to develop more effective programs of study (POS) and curriculum.

- **Agriculture, Food & Natural Resources**
  The production, processing, marketing, distribution, financing, and development of agricultural commodities and resources including food, fiber, wood products, natural resources, horticulture, and other plant and animal products/resources.

  Courses in SPS: Horticulture, Food Science, Nutrition and Wellness, Environmental Science

- **Architecture & Construction**
  Careers in designing, planning, managing, building and maintaining the built environment.

  Courses in SPS: Woods, C-West and opportunity for an ACE Mentor

- **Arts, A/V Technology & Communications**

  Designing, producing, exhibiting, performing, writing, and publishing multimedia content including visual and performing arts and design, journalism, and entertainment services.

  Courses in SPS: Video, Radio, Multimedia, Graphic Design, Yearbook, Animation, Photography, Technical Theatre

- **Business Management & Administration**
  Careers in planning, organizing, directing and evaluating business functions essential to efficient and productive business operations.

  Courses in SPS: Introduction to Business, Project Management, IB Business Management, AP Economics

- **Education & Training**
  Planning, managing and providing education and training services, and related learning support services such as administration, teaching/training, administrative support, and professional support services.

  Courses in SPS: American Sign Language

- **Finance**
  Planning and related services for financial and investment planning, banking, insurance, and business financial management.

Courses in SPS: Academy of Finance Program, Accounting

- **Government & PublicAdministration**
  Planning and executing government functions at the local, state and federal levels, including governance, national security, foreign service, planning, revenue and taxation, and regulations.

  Courses in SPS: Family Career & Community Connections

- **Health Science**
  Planning, managing, and providing therapeutic services, diagnostic services, health informatics, support services, and biotechnology research and development.

  PLTW Bio Medical, Medical Assisting, Medical Careers, Family Health, Sports Medicine, Nutrition and Wellness

- **Hospitality & Tourism**
  Preparing individuals for employment in career pathways that relate to families and human needs such as restaurant and food/beverage services, lodging, travel and tourism, recreation, amusement and attractions.

  Courses in SPS: Academy of Hospitality and Tourism Program

- **Human Services**
  Preparing individuals for employment in career pathways that relate to families and human needs such as counseling and mental health services, family and community services, personal care, and consumer services.

  Courses in SPS: IB Psychology, AP Psychology, Teen Grads Program, Human Development, Child Development, Culinary, and Interpersonal Relationships

- **Information Technology**
  Building linkages in IT occupations for entry level, technical, and professional careers related to the design, development, support and management of hardware, software, multimedia and systems integrationservices.

  Courses in SPS: Cisco Networking, Microsoft IT Academy, Computer Applications, Web Design, Computer Science, Phone Application Programming, AP Computer Science, UW in the High School Computer Science, Middle School Computer Science, Skills Center Animation & Game Programming

- **Law, Public Safety, Corrections & Security**
  Planning, managing, and providing legal, public safety, protective services and homeland security, including professional and technical support services.

Courses in SPS: Skills Center Fire Science

- **Manufacturing**
  Planning, managing and performing the processing of materials into intermediate or final products and related professional and technical support activities such as production planning and control, maintenance and manufacturing/process engineering.

  Courses in SPS: Skills Center Aerospace, Auto, Auto Body, C-West, Metals

- **Marketing**
  Planning, managing, and performing marketing activities to reach organizational objectives such as brand management, professional sales, merchandising, marketing communications and market research.

  Courses in SPS: Marketing 1-4, Store, Advertising

- **Science, Technology, Engineering &Mathematics**
  Planning, managing, and providing scientific research and professional and technical services (e.g., physical science, social science, engineering) including laboratory and testing services, and research and development services.

  Courses in SPS: PLTW Engineering, Applied Math, CAD, Computer Science, Aerospace Engineering, Marine Science, Financial Algebra

- **Transportation, Distribution &Logistics**
  The planning, management, and movement of people, materials, and goods by road, pipeline, air, rail and water and related professional and technical support services such as transportation infrastructure planning and management, logistics services, mobile equipment and facility maintenance.

  Courses in SPS: Maritime Academy Program, Auto