

**CAREER and TECHNICAL EDUCATION**  
**Including: SKILLS CENTER**  
**ANNUAL BOARD REPORT**  
**January 2015**



2014 - 2015



Ballard Robotics Team- 3rd in Nation



Rainier Beach App Day



Nathan Hale FCCLA Region President  
Presenting Award to Rep. Tomiko-Santos



Submitted by:

Mary Davison, CTE Program

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## CAREER and TECHNICAL EDUCATION

### Definition

Career and Technical Education (CTE) 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 entry-level employability skills for internships, apprenticeships, preparation for industry certification, and pursuing career options in college.

### Mission

The Career and Technical Education Department broadens career choices for students, supports and promotes quality instruction, and ensures that every secondary school has a range of CTE offerings for every student, including skill center options.

### Vision

Career and Technical Education: Where all students imagine, design, and craft their future.

### Central CTE Staff

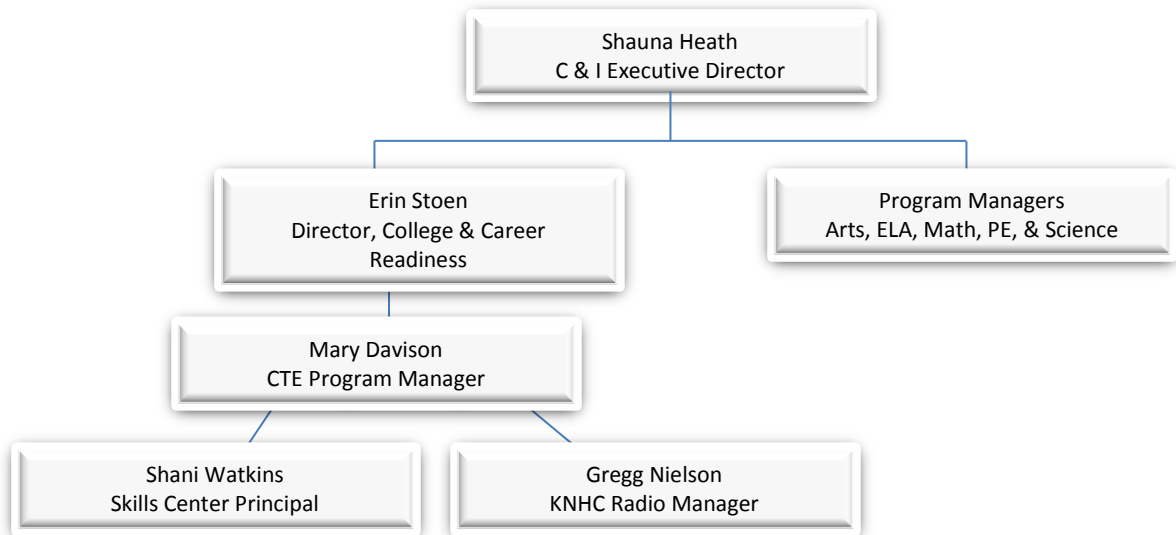
Manager .....	Mary Davison
Administrative Assistant .....	Mark Daniels
Fiscal .....	Wendy Turner
Specialists:	
Academies and Work-Based Learning .....	Joanne Patrick
Agriculture, Arts, Media, Science & Engineering .....	Robert Austin
Business, Marketing, & Information Technology .....	Michelle Chaney
Career & Guidance Services — .6 shared with College & Career Director. ....	Myrna Muto
Health & Human Services and Family & Consumer Science .....	Roxanne Trees
Non-traditional Counseling - .5 part-time .....	Cathi Rodgveller
State and Federal Reporting — .3 Part-time .....	Patsy Ethridge-Neal

## Additional Seattle Public Schools Skills Center CTE Staff

Principal .....Shani Watkins

Registrar ..... Deanna Gallichan

### ORGANIZATIONAL CHART – CTE



### ASSESSMENT OF CTE PROGRAM

Career and Technical Education is an essential component of the high school curriculum. It is critical in meeting the needs of students in academic achievement, career exploration, career preparation, and leadership development with 21<sup>st</sup> Century Skills attainment.

Career and Technical Education (CTE) in Seattle Public Schools continues to offer students some of the finest CTE experiences in the nation. Through CTE in our district, students explore and prepare for career opportunities and learn how other subjects like math, science, reading, and writing are used in real-life. CTE students gain leadership skills through activities in their classrooms and participation in organizations such as DECA (Marketing), Future Business Leaders of American (FBLA), Skills USA, First Robotics, Family Career and Community Leaders of America (FCCLA), and HOSA-Future Health Professionals. CTE prepares students to succeed in high demand occupations in the 21<sup>st</sup> century competitive global economy by promoting quality instructional partnerships with business, industry, and the post-secondary community.

Nationally, Career and Technical Education (CTE) is organized around the 16 Career Clusters<sup>1</sup>. Seattle Public Schools (SPS) CTE is organized around the following pathways with Specialists to support current programs, research new programs and initiatives, and work with industry partners for advice in keeping our programs current for now and in the future:

<sup>1</sup> See Appendix #1 – Career Clusters Pathways – Course Offerings, Pages 19-21

- **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<sup>2</sup>**

We have very strong programs in most pathways, and are moving to a Program of Study model for all course offerings.<sup>3</sup> Programs of Study<sup>4</sup> are detailed guides for students, mapping out specific course options for a chosen career path from high school through postsecondary education. Programs of Study show how to smoothly transition into postsecondary education, apprenticeships or work from high school CTE.

### **Program and Teacher Quality**

As we continue to offer our students some of the finest Career and Technical Education experiences in the nation, our research we use to indicate we deliver in ways that are aligned to industry standards and best practices. The 2011, [Pathways to Prosperity<sup>5</sup>](#) report from the Harvard School of Education cited Career Academies and Project-Lead-the Way (PLTW) engineering programs as best practices and bellwethers of quality. Seattle Public Schools is one of the only Washington State school districts to sustain Career Academies and we have done so since 1987. We were the first district in Washington State to implement [Project Lead the Way](#) (PLTW). Other 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 Rainier Beach, Ingraham, West Seattle, and Skills Center
- 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

In addition, we are using the Microsoft sponsored TEALS (Technology Education and Literacy in Schools) program to increase and sustain our computer science offerings at Ballard, Franklin, Garfield, Hale, Ingraham, Rainier Beach, and Roosevelt, and have been able to hire highly qualified computer science teachers at Ballard, Cleveland, Garfield, Hale, and Roosevelt and sustain our International Baccalaureate computer science program at Ingraham. We are

<sup>2</sup> See Appendix 1 – Career Clusters Pathways – Course Offerings, Pages 19-21

<sup>3</sup> See Appendix 1 - Career Clusters™- Pathways – Course Offerings – Pages 19-21

<sup>4</sup> <http://www.k12.wa.us/CareerTechEd/ProgramsofStudy.aspx>

<sup>5</sup> [http://www.gse.harvard.edu/news\\_events/features/2011/Pathways\\_to\\_Prosperty\\_Feb2011.pdf](http://www.gse.harvard.edu/news_events/features/2011/Pathways_to_Prosperty_Feb2011.pdf)

planning an agreement with [code.org](http://code.org) for additional computer science offerings in middle and high schools, and professional development opportunities for computer science teachers. Franklin High School is partnering with code.org for its computer science introductory course.

Seattle's CTE teachers and staff win recognition and awards and are consistent leaders at regional, state, and national levels. Our Roosevelt Project Lead the Way program has been designated as a PRIME (Partnership Response in Manufacturing Education) Program for the Society of Manufacturing Engineers (SME) and the teacher has been named the National SME teacher of year for the current school year. Students who concentrate their studies in CTE, which is taking four semesters in a program area, go to college at a greater rate, and complete their programs more often than other students who do not as evidenced in research from the National Academy Foundation and the Work Force Training Board of Washington State. We are planning to feature these teachers and students at a June board meeting.

Because of OSPI requirements and best practices for CTE, courses are up for reapproval on a four-year cycle. Courses have been rewritten incorporating 21<sup>st</sup> Century Skill indicators, and the Common Core Standards for English Language Arts and Mathematics, and the Next Generation Science Standards that apply to the course content. The final group to add all of these standards, Environmental Science and Agriculture, is being submitted in January, 2015.

### **Current Skills Center Initiatives**

Launching the Seattle Public Schools Skills Center has been a major focus and opportunity and consumed much time and energy over the last three years. Programs have been proposed; locations sought; skill panels designed by industry partners; facilities provided support; courses and frameworks were written and approved for OSPI and Seattle Public School course catalogs; instructors were hired; school partners approved locations and sites; and programs are up and running. Skills Center programs are half-day programs for students 16 and over. Students attend their assigned high school and then travel to the Skills Center for 2½ hour sessions of their school day. This can occur during the regular school day or after the regular school day. The following are current Seattle Skills Center programs and locations:

- Academy of Interactive Entertainment (AIE) Animation and Gaming – West Seattle - 2 sessions
- Aerospace Science and Engineering – Rainier Beach – 2 sessions
- Auto – Shop behind Washington Middle School – 2 sessions
- Culinary Arts – Rainier Beach – 2 sessions
- Fire Science – incorporated into Medical Services for this year at Lincoln
- IT CISCO Networking – Rainier Beach – 1 session
- Maritime Science and Engineering – planned for Ballard currently at Rainier Beach – 1 session
- Medical Careers – West Seattle – 2 sessions
- Medical Services – Wilson Pacific – moving to Lincoln– 2 sessions
- Multimedia Broadcasting – KNHC – Nathan Hale – 1 session

Planning for next year is taking place and additional programs we are planning to offer are:

- Fire Science – planned for Rainier Beach – 2 sessions
- Auto Body– Shop behind Washington Middle School – 2 sessions
- Construction and Pre-Apprenticeship – Rainier Beach – 1 session

We successfully completed our second summer of Skills Center offerings for rising 9<sup>th</sup> through 12 graders last summer and expect attendance to again double from the previous year for next summer.

### **Enrollment/Staffing and CTE Funding**

High School and Middle School CTE have seen increased offerings of Computer Science, Engineering, Material Science, *Pro Start* Food Production, Visual Communication, Microsoft IT Academy courses, and AP Psychology. Our overall trends are increasing from 11.66% in 2010-11 to 12.2% of all high school students. We added 2 additional CTE sections in middle schools. Our Skills Center is gaining student enrollment each year. Our Skills Center Principal, Shani Watkins is managing day-to-day operations, promoting the programs, and driving future initiatives of the Skills Center. The 2013-2014 school year was the first year we had no cuts in CTE for years. This school year there were a few section cuts and additions with Cleveland and Ingraham leading the additions. We were able to increase our Skills Center registrar from a .6 to a 1.0 position to handle more students and City Campus registration issues.

We offered a Skills Center Summer School Program for the second time in the summer of 2014. This past summer and from now on, we receive allocation dollars from the state for our summer Skills Center programs. The summer Skills Center programs are open to rising 9<sup>th</sup> graders through 12<sup>th</sup> graders and are funded by OSPI as if a student was in a regular Skills Center program. We offered five sections our first summer and were able to offer 18 sections in two sessions for 2014. This number is projected to increase for the summer of 2015 as there will be two sessions of morning and afternoon classes rather than all-day to take advantage of space and staffing considerations.

### **CTE Full-time Equivalent (FTE) Student Numbers are Averaging**

YEAR	FTE HS	FTE MS	SKILLS CTR	TOTAL FTE
2008-2009	1538.43	73.63		1612.06
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	50.5	1608.45
2013-2014	1556.49	102.55	65.27	1724.31
2014-2015	1598.06	122.81	74.12	1794.99

We were pleased that in addition to the growth in the Skills Center enrollment, our regular CTE FTE has grown in the high schools. While CTE FTE totals are increasing, compared to total High School and Middle School enrollment, the increases are still far below the averages of many other large districts. The following table shows the enrollment as a percent of the total high school and middle school enrollment.

**ENROLLMENT AS A PERCENT OF TOTAL ENROLLMENT IN HS and MS**

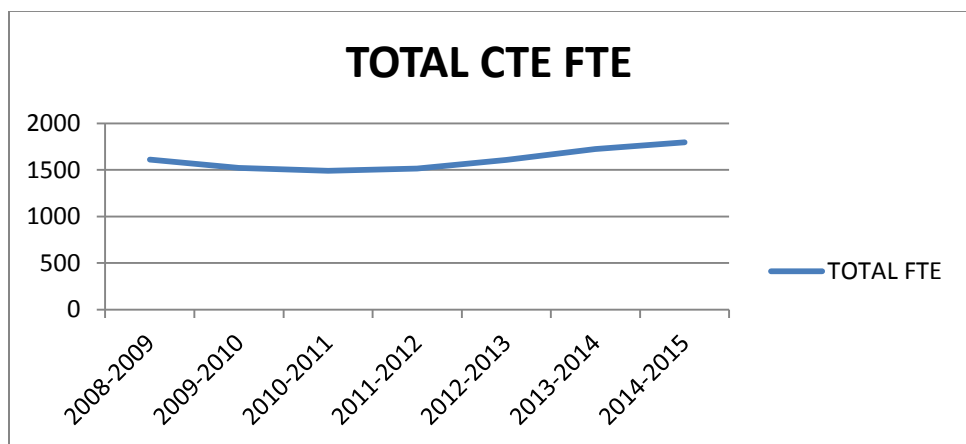
Year	CTE/HS	CTE/MS
2008-2009	12.17%	1.20%
2009-2010	11.97%	0.30%
2010-2011	11.66%	0.43%
2011-2012	11.51%	0.78%
2012-2013	11.47%	1.08%
2013-2014	11.99%	1.49%
2014-2015	12.02%	1.71%

Our Skills Center enrollment has increased this year. We were able to add Radio and Maritime, plus migrate Auto Body from City Campus to Skills Center and add extra sections of Culinary and Aerospace. Next year, additional programs moving from City Campus are the C-West Construction and Apprenticeship program and the Auto Body program. There is also a firm plan in place for Fire Science that includes a location and an instruction model.

**Skills Center Enrollment**

School Year	Total Average FTE	Additional FTE Summer School
2012-2013	58.58	0
2013-2014	65.27	22.47
2014-2015 so far	74.12	Estimated +30

**CTE FTE Total is charted from 2008-2015:**





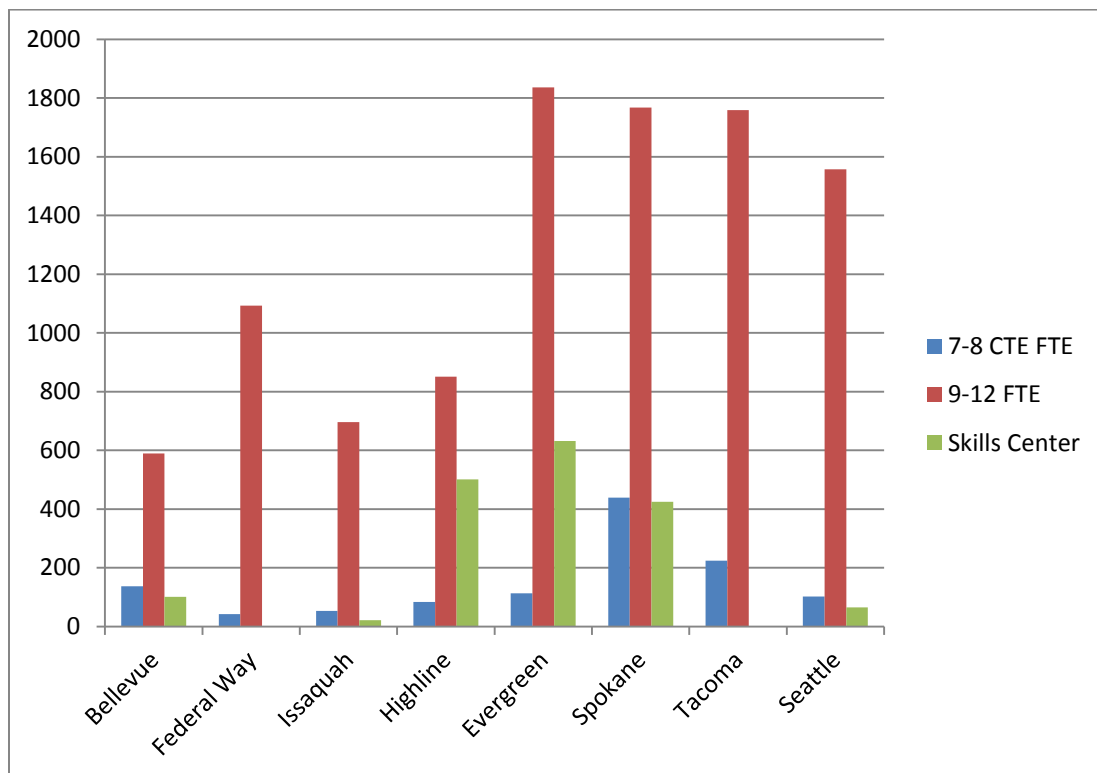
## Student FTE Comparison with other Washington State Districts

Districts were chosen for comparison based on proximity to Seattle and their reputations for quality educational experiences for their students as well as the largest districts in the state.

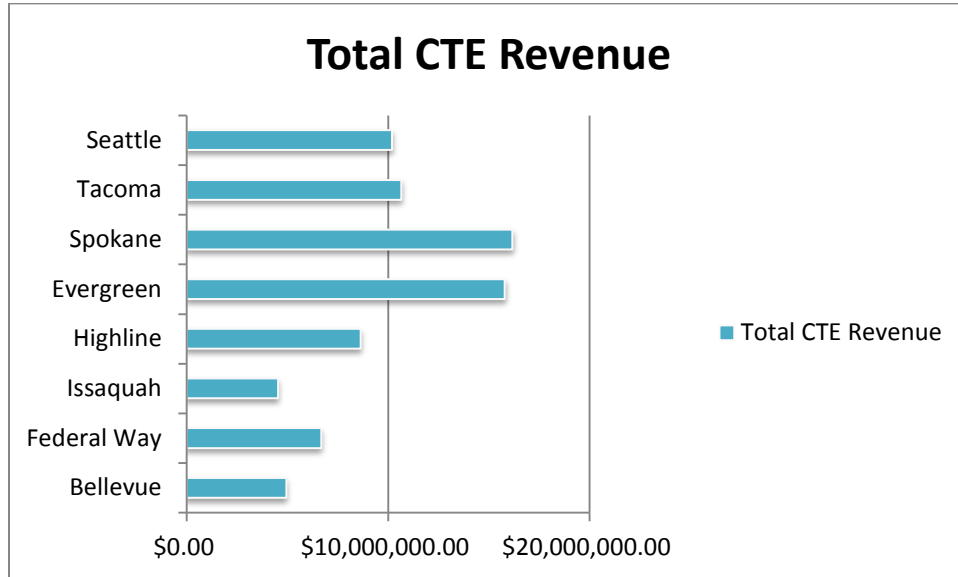
### DATA for 2013-2014 SCHOOL YEAR

District	7-8 CTE FTE	% of Total	9-12 FTE	% of Total	Skills Center	Total CTE Revenue
Bellevue	136.49	4.84%	588.77	10.07%	101.38	\$4,959,195.40
Federal Way	41.88	1.29%	1092.36	17.64%	0	\$6,682,310.98
Issaquah	52.58	1.84%	695.95	13.79%	21.37	\$4,545,168.12
Highline	83.83	3.28%	850.59	15.42%	500.58	\$8,639,578.74
Evergreen	113.38	2.87%	1835.55	22.57%	632.16	\$15,790,099.04
Spokane	439.18	10.14%	1767.56	22.75%	424.79	\$16,167,235.54
Tacoma	223.93	5.55%	1758.67	23.55%	0	\$10,660,850.31
Seattle	102.55	1.50%	1556.49	12.50%	65.27	\$10,196,694.81

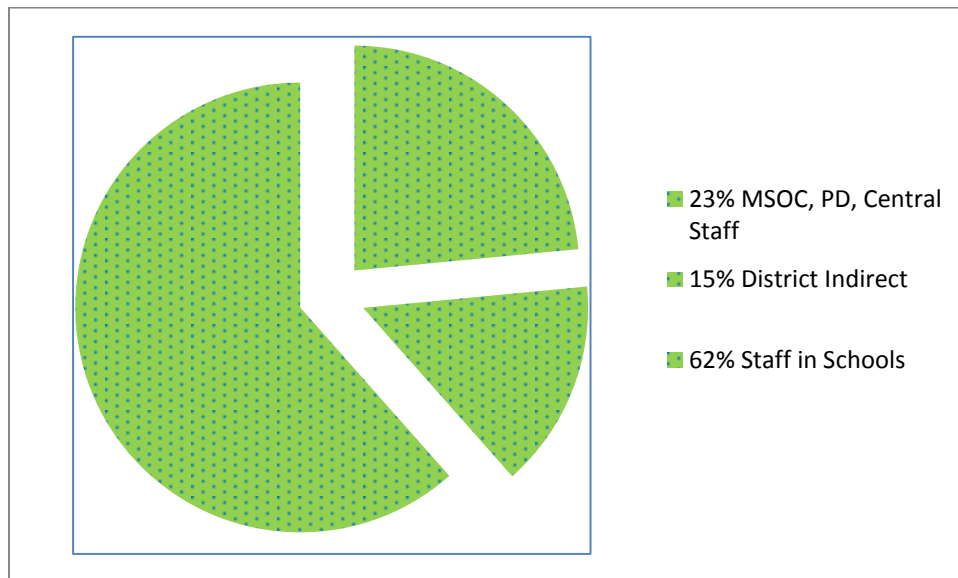
### REVENUE COMPARISON by DISTRICT for the 2013-2014 SCHOOL YEAR



## TOTAL REVENUE COMPARISON BY DISTRICT



## CTE BUDGET ALLOCATIONS FROM 1191CTE



In addition to apportionment Career and Technical Education received \$606,185.98 in Carl Perkins, TEALS, and OSPI grants for particular programs and courses in 2013-2014.

## STRENGTHS AND QUALITY INDICATORS

When principals are asked about exemplar programs or have outside visitors in the schools, you will often see that they point out their Career and Technical Education (CTE) programs and that these CTE programs are a point of pride for the school and community. Recent media articles have been about Video, Project Lead the Way, Computer Science, Culinary, and Radio at Nathan Hale. Our strengths and quality indicators are characterized by:

## Strengths

- Strong programs in each of the pathways<sup>6</sup>
- Curriculum, instruction, and assessment aligned with standards
- Teachers who are leaders in instruction and in their schools
- The SPS Skills Center running, and addition of programs
- Consolidated Program Review (CPR) OSPI Audit for CTE was completed in March 2014. There were minor findings related to our course catalog and providing data that was difficult at first for Power School.
- Advanced Placement programs up and running in each pathway except Agriculture
- Tech Prep Articulations – dual credit with the Seattle Colleges are up and running and gaining strength
- College in the High School for Computer Science and Oceanography
- Academies that are long-lived and strong<sup>7</sup>
- Community engagement and strong advisory boards<sup>8</sup>
- Clear and shared focus, mission, and vision
- High Standards and Expectations – new frameworks (program standards) on 4 year cycle for review and approval, common core state standards, Next Generation Science Standards, and 21<sup>st</sup> Century Skills incorporated into all frameworks with specific objectives
- Strong Career and Technical Student Organizations (CTSOs) that give students opportunities to compete alongside other students in the state and nation
- Opportunities such as IGNITE (Inspiring Girls in Technology Evolution) and ACE (Architecture, Construction, and Engineering) Mentors to provide students with opportunities and industry mentors
- Learning environments that focus on meeting industry and program design standards
- High levels of communication and collaboration

## Quality Indicators

- Middle school offerings in Career and Technical Education beginning to gain steam with additional schools and offerings in the STEM fields
- Monitoring of teaching/learning and professional development provided
- IGNITE – Inspiring Girls Now in Technology Evolution offers girls and now boys, opportunities to job shadow, find mentors, and connect with companies that represent STEM fields
- Students qualifying and winning state and national Career and Technical Student Organizations (CTSO) awards and state and national awards in particular fields such as computer science, family and consumer sciences, robotics, and video
- Non-traditional fields especially in the science, technology, engineering, and math (STEM) areas that CTE students can access across the district

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<sup>6</sup> See Appendix #2 – Exemplars in Each Pathway – Page 22

<sup>7</sup> See Appendix #3- Academies – Page 23

<sup>8</sup> See Appendix #4 – Advisory Boards – Pages 24-28

## Community Engagement

Advisory boards are required for all program areas in CTE through our standards and by OSPI. We are very fortunate to have community and industry partners participating on our strong advisory boards for each of our program areas.<sup>9</sup> Advisory boards and pathway specialists meet between three and nine times each school year to review, evaluate, and discuss current and planned programs. The advisory board members and other volunteers serve roles as speakers, judges for Career and Technical Education Student Organizations (CTSOs), field trips, career conferences, and informal advisors. These community partners allow us to keep our programs current with industry requirements and standards, and also, partner to take advantage of numerous opportunities for our students and staff.

## CHALLENGES

Our challenges focus on three main areas: access for all students, sustainability of programs, and funding. These challenges represent areas that need to be negotiated with high school and middle school administration especially around sustainability and new program placement, as well as with central office staff around priorities. Among those items needing focused attention are:

- Scheduling conflicts – each high school has different schedules which make it very difficult to enroll Skills Center students. As we look at reinventing the high school schedule for 24 credits consistent times across the district will be addressed
- New college and career readiness standards
- Impact of additional math and reading support classes on elective programs making it difficult for students to enroll in Skills Center programs and additional CTE courses
- Exploring north end and south end Skills Center campus facilities
- Perception challenge to see CTE as a core part of program of study for all students
- Equity and accessibility of course offerings across district
- Sustainability of programs that are expensive to operate such as auto, woods, and video
- Locating space for Skills Center programs in the North End
- Finding funding for certification exams for students to earn industry certifications
- Funding for College in the High School (CHS) courses
- Funding for Tech Prep initiative – the Carl Perkins federal grant still requires college credit articulations with community colleges as a requirement but funding dissolved at end of 2010-2011 school year
- Students may fulfill the Occupational Education (Oc Ed) graduation requirement with non-CTE courses and there are a large percentage of students that do not take any CTE course in their high school program and fulfill the graduation requirement through non-CTE Occupational Education (Oc Ed). This impacts our CTE revenue

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<sup>9</sup> See Appendix #4 – Advisory Boards – Pages 24-28

## OPPORTUNITIES

### Expanding and Strengthening CTE Programs

There are many initiatives and programs we are researching and examining to expand and strengthen our offerings especially in the Green Technology, and Science, Technology, and Engineering (STEM) fields. Our Skills Center Aerospace Engineering Core + program was initiated and developed by our advisory boards because of industry need for qualified employees and advisory board interest. We were named as one of 19 programs in the state for our Aerospace Engineering Skills Center program using the Core + model. Maritime Science and Engineering Skills Center program that began with this school year, has also adopted the Core + model. Most of our new programs and new initiatives are currently involved in the Skills Center but we are also looking at all program areas for opportunities and meeting with other CTE Directors in King County and the state to find best practices for our students. Middle School offerings are still a challenge especially in the K-8 schools.

### Career Clusters

[Career Clusters](#)<sup>™</sup> are an organizing tool for curriculum design and instruction. They provide students with relevant contexts for studying and learning and are organized nationally into 16 areas that support over 79 distinct career pathways. In Seattle Public Schools (SPS), we have organized and consolidated these 16 areas into 15 pathways with 3 Specialists, that link coursework with the knowledge and skills required for success in the workplace, career exploration, and for preparation for college and careers. They also function as a guide in developing programs of study (POS) bridging secondary and postsecondary curriculum, and for aiding students in development of their high school and beyond plans. CTE helps students discover their interests, their passions, and empowers them to choose a pathway that will aid their success in high school, college, and a career.

In Seattle Public Schools, as previously mentioned, we consolidate these 15 pathways into 5 areas:

- **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**<sup>10</sup>

These 5 areas are overseen by three Specialists and give us a focus for how to organize new initiatives and assess our strengths and gaps.

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<sup>10</sup> See Appendix #1 – Career Clusters Pathways – Course Offerings, Pages 19-21

## **STEM – CTE Programs**

We have many strong course and program offerings in the STEM areas including our offerings at the Skills Center: Aerospace Science and Engineering, Medical Careers, and Medical Assisting, Animation and Gaming, Maritime Science and Engineering, and Cisco/IT Academy. The Project Lead the Way (PLTW) Biomedical at Cleveland, and PLTW Engineering at Cleveland, Ballard, Franklin, Garfield, and Roosevelt High Schools and Gateways to Technology (part of PLTW) at Denny, Madison, McClure, South Shore, Washington, and Whitman Middle Schools. Other STEM courses include: KNHC – Radio at Hale, Woods, C-West Construction and Apprenticeship, BioTech, Computer Science at seven high schools, and Middle-School STEM courses in computer science, technology, and video. [ACE](#) (Architecture, Construction, and Engineering) Mentors is an additional STEM after school program open to all Seattle Public School high school students. The mission of ACE is to engage, excite and enlighten high school students to pursue careers in architecture, engineering and construction through mentoring. We currently have 66 students taking advantage of this opportunity. CTE teachers are also the mentors for most of the First Robotics teams in the schools as after school activities.

We are continually investigating new programs and integrated models of delivery in the STEM areas and consider this an area for CTE growth.

## **CROSS-CREDIT, DUAL CREDIT, and INDUSTRY CERTIFICATION OPPORTUNITIES**

The CTE Department participates in extensive interdisciplinary collaboration, in particular with science, math, and visual performing arts. Cross-crediting of CTE courses with core academics continues, and there is a rigorous application process between CTE and visual performing arts to authenticate courses. Most Skills Center courses are cross-credited with third-year math, lab science, or visual arts. We continue to pursue Advanced Placement (AP) and International Baccalaureate (IB) CTE courses and currently have courses in Computer Science, Psychology, Arts Portfolio, IB and AP Economics, and IB Business Management. CTE has supported Chief Sealth and applying for the IB Career Concentration (IBCC) diploma option.

## **Math Options and Lab Science Options**

Financial Algebra, Applied Algebra, and Applied Geometry options are approved to fulfill the third-year math graduation requirement if they are part of a student's high-school and beyond plan. Advanced Placement (AP) and International Baccalaureate (IB) Computer Science are approved for fourth-year math or third-year lab science. Other lab science options for graduation that are cross-credited are: Sports Medicine/ Athletic Training, Nutrition & Wellness, Food Science, Nutrition & Dietetics, Principles of Biomedical Science (PLTW), Human Body Systems (PLTW), Medical Intervention (PLTW), Medical Assisting SKC, Nurse Assisting SKC, Horticulture, Environmental Science, and Biotech Biology and Biotech Chemistry.

## Double Credit – Dual Credit – Tech Prep

[WAC 180-51-067](#) provides for students' ability to check off two graduation requirements, so called – **double credit** – for CTE courses starting with the graduating class of 2015 – 2016 (current 9<sup>th</sup> through 11<sup>th</sup> graders). The language is as follows:

- a) Students who earn a graduation requirement credit through a CTE course locally determined to be equivalent to a non-CTE course will not be required to earn a second credit in the non-CTE course subject; the single CTE course meets two graduation requirements.

Students can now earn **dual credit** with the Seattle Colleges through Tech Prep. This is dual credit for a college and a high school course much like Running Start but students and the FTE stays in the schools. Because the funding for Tech Prep was eliminated from the 2010-2011 Carl Perkins Grant, we made a decision to partner with the Seattle Colleges and CTE pays for half the funding for the Seattle College work-force liaison to continue this initiative.<sup>11</sup> There were 890 students in CTE programs in Seattle Public Schools earning a total of 3170.50 credits through the three Seattle Colleges (they have taken Community out of their names) for the 2013-2014 school year. This translates to a savings for families of \$338,767.90 at the current cost of \$106.84 a credit at the Seattle Colleges. A list of our current Tech Prep courses can be found with a link from the SPS CTE page or at: <http://www.techprepseattle.org/><sup>11</sup>. We are currently working on additional courses for second semester and next year and will have those articulated sometime in March with the Colleges and SPS CTE teachers.

### UNDUPLICATED TRANSCRIBED STUDENT COUNTS FOR TECH PREP

Year	Registered Students	Transcribed Students	Percent Completed	Credits Earned
2013-2014	1,055	890	84.36%	3170.50
2012-2013	1,175	857	72.94%	2,422.00
2011-2012	1,074	853	79.42%	3,456.50

Our numbers have been pretty stable given the reduction of funding and the re-articulation of all classes. We have renewed our articulation process and expect an increase for this school year in number of students served and credits offered.

We have also been able to initiate the University of Washington College in the High School (UW in HS) model for computer science at Cleveland, Garfield, and Roosevelt. Students at these

<sup>11</sup> <http://www.techprepseattle.org/downloads/Master%20list%20articulations%202012.pdf> – Tech Prep

schools can choose to pay for credit through the University of Washington’s partnership with the high school teachers. Nathan Hale and Ballard should join this group next year.

### Industry Certification

Students have the option to earn industry certifications in most of our programs and pathways. Testing is now available in most areas because of the new OSPI agreement with Precision Testing. Precision is working towards aligning all of the CTE curriculum frameworks with their testing. A complete list of Precision Exams can be found on their website: <http://www.precisionexams.com/washington/exams.html>. Besides Precision Exams, we have testing available now in the following classes:

<b>Courses</b>	<b>Certification/State/National Recognition</b>
ACE and C-West	Direct entry in Apprenticeships
AIE Animation & Gaming	Direct entry into 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 Garfield
AP Psychology	AP Psychology
Automotive	Automotive YES –ASE exit exam
Cisco 1-4	CCNA
Computer Science	AP Computer Science and UW in the High School
Family Health, Nursing Assistant, Medical Assisting, Family Relations	CPR and First Aid
Human Development; Child/Parenting	Merit Certification for Learning
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	End of Course Exams
Project Lead the Way	End of Course Exams
Pro Start Food Production	Certificate of Recognition and Achievement
Precision Testing	Certifications for most of the CTE courses

### SKILLS CENTER

Along with schools, industry partners, and advisors, CTE has been working with our Skills Center instructors and programs to ensure high quality programs. Stable facilities have been a major concern and locating facilities north of the ship canal has been our major challenge. Our goal is to determine offerings that afford access and equity across the district for all interested students. Planning for future expansion includes program quality, industry projection needs now and in the future, and facility availability. Our vision also includes facilities with campuses in the north end and south end of the city beside our regular satellite sites.



## City Campus

Our City Campus programs were originally designed before Seattle Public Schools was approved for a Skills Center. City Campus programs are based on a Skills Center model of delivery in that students attend for half of their school day and they lead to industry certifications, apprenticeships, or direct to industry positions as well as college. The SPS City Campus programs have always had strong support from our community partners and next year most will have been moved to Skills Center programs to reflect their outcomes and take advantage of enhanced funding. Last year, we were able to make this change with Medical Assisting, which is being moved to the Lincoln site in February as Wilson Pacific is repurposed at the end of this school year. Our Automotive program located behind Washington Middle School, has also been moved to a Skills Center model. We plan to move Auto Body and Construction/Pre-Apprenticeship (C-WEST) next year to the Skills Center model for the 2015-16 school year. The Exploratory Internship Program (eXIP) that we operate cooperatively with Special Education will remain as the only City Campus program after next school year.



Maritime Skills Center Students  
Conference on Maritime Careers, Olympia



Culinary Skills Center Students  
Catering at JSCEE for Open House

## CONCLUSION

A strong JSCEE CTE staff works to ensure quality instruction occurs in CTE courses across the District. The CTE program is committed to keeping course offerings and programs up-to-date with cutting edge practices, approaches and content. The successful launch of our SPS Skills Center and our work to engage our communities is second to none. These commitments highlight CTE's strengths in Seattle Public Schools. Equitable access for all students, sustainability of program offerings, and funding for current and future programs are challenges that we are addressing. Other challenges for the Skills Center are the disparate schedules of each high school, facilities with room in the north end of the city, and the demands for increased graduation requirements. By working with the opportunities we are creating and the new partnerships we are forging, some of these challenges can be addressed with the support of college and career readiness requirements. Growth areas are in middle school STEM offerings, cross-crediting initiatives, and a renewed focus on CTE in the district. As in the [\*Pathways to Prosperity\*](#) report from the Harvard School of Education, and United States Secretary of Education, Arne Duncan affirming CTE as a delivery model for college and career readiness, we are feeling renewed energy for CTE initiatives, courses, and programs in Seattle Public Schools.

[http://www.sawdc.com/media/5959/pathways\\_to\\_prosperity\\_feb2011.pdf](http://www.sawdc.com/media/5959/pathways_to_prosperity_feb2011.pdf)

Garfield Computer Science Hour of  
Code with Mayor Murray



Aerospace Science &  
Engineering/Core + Skills Center

## Appendix #1 – Career Clusters™- Pathways – Course Offerings

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.*

**Offerings 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.*

**Currently no courses in SPS**

- **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 & Public Administration**

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

**Currently no courses in SPS**

- **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**

- **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 integration services.*

**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: 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**

## **Appendix #2 – Exemplars in Each Pathway**

### **Arts, Communications, and Media**

**Video Program at Ballard**

**KNHC Radio Station at Hale**

**Animation and Game Programming in Skills Center at AIE**

**Technical Theatre at Roosevelt**

### **Business, Marketing, Information Technology and Computer Science**

**Academy of Finance Programs at Chief Sealth, Franklin, and Ballard**

**Academy of Hospitality and Tourism at Chief Sealth**

**AP Computer Science at Ballard, Rainier Beach, Cleveland, Hale, Roosevelt, & Garfield**

**Marketing at Ballard, Hale, Garfield, Roosevelt, and West Seattle**

**Skills Center Cisco Networking Academy at Rainier Beach**

### **Environmental Science and Agriculture**

**Biotech at Ballard**

### **Health & Human Services, and Family & Consumer Science**

**GRADS Program at South Lake**

**IB Psychology at Ingraham**

**AP Psychology at Roosevelt and Chief Sealth**

**Award winning Family & Consumer Sciences Programs across district**

**PLTW Biomedical at Cleveland**

**Medical Careers at Skills Center located now at Lincoln**

**Skills Center Medical Assisting at West Seattle**

### **Science, Engineering, and Industry**

**PLTW Engineering across district**

**Auto Tech at West Seattle, Ingraham, and Skills Center**

**Woods at Ballard, Franklin, and West Seattle**

**Skills Center Aerospace and Maritime Science and Engineering located at Rainier Beach**

## SEATTLE PUBLIC SCHOOLS ACADEMIES

### National Academy Foundation (NAF)

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NAF Academies are in 490 schools, 41 states and the District of Columbia plus the US Virgin Islands. The NAF Academies established in 1982; have been a part of Seattle Public Schools since 1987.

- [Academy of Finance](#)
- [Academy of Hospitality & Tourism](#)

### Career Academies

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- [Ballard Maritime Academy](#)
- [Biotechnology Academy at Ballard](#)
- [CREATE Academy at Franklin](#)
- [John Stanford Public Service Academy at Franklin](#)

### Cleveland High School STEM Career Academies

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[Cleveland STEM](#) stands for Science, Technology, Engineering and Mathematics, fields that are the underpinnings of modern life. The STEM Program at Cleveland High School will give students the opportunity for rigorous and advanced study in these subjects. The two academies that students can choose from are:

- [School of Life Sciences](#) which includes PLTW Biomedical
- [Engineering and Design](#) which includes Computer Science and PLTW Engineering

### Seattle Academies Foundation

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The Mission ~

The Seattle Academies Foundation ~ Academy of Finance, Academy of Hospitality and Tourism, and Academy of Information Technology promotes academic excellence and provides real-world experiences in a Finance, Hospitality and Tourism, and Information Technology environment and provides personal involvement with local business and industry leaders for qualified high school students.

The SAF Focus Statement ~

Our children are worthy of our Investment!

## Appendix #4 – CTE Advisory Boards

### Career and Technical Education Advisory Committees

Career and Technical Education (CTE) advisory committees advise, assist and provide support and advocacy for quality CTE programs. Advisory committee volunteers have the opportunity to learn more about the CTE program, and the instructor's are able to increase their understanding of the job market, employers' needs and community opportunities. Advisory boards are required for all CTE programs in the CTE standards through OSPI.

<http://www.k12.wa.us/CareerTechEd/Forms/AdvisoryBrochure.pdf>

#### GENERAL ADVISORY COUNCIL AND SKILLS CENTER ADVISORY BOARD

SKILLS CENTER & GAC MEMBERS LIST		
First	Last	Company
Jay	Abram	Professional Solutions for Personal Computers
Robert	Austin	Career & Tech Ed Dept, SPS
Bridgett	Bascomb	Seattle City Light
Tim	Bond	Boeing
Chris	Brandmeir	Highline Community College
Peter	Cavanaugh	Workforce Development Council of Seattle -King County
John	Lederer	North Seattle Community College
Mary	Davison	CTE Program Manager
Renée	Florio	SSCC, CTE Teacher Cert Prep Program
Taylor	Gaussoin	Media Design & Production
David	Gering	Manufacturing Industrial Council (MIC)
Alfred	Griswold	Seattle Central Community College
Darren	Linker	Dept of Environmental Health and Safety, UW
Diane	Kocer	AGC
Gary	Fasso	PNW Regional Council of Carpenters
Karen	Mattson	WSECU Community Relations
Mike	McBee	IUOE Local 609
Annika	Mertz	Seattle Central College
Andrea	Samuels	Seattle Colleges
Kathleen	Moriarty	Port of Seattle
Jim	Nicholson	Oppenheimer & Co Inc.
Mickey	Pierce	Community Activist - Contract – Microsoft
Lindsay	Pulsifer	Port of Seattle
Will	Rance	WSECU
Shepherd	Siegel	Project Lead the Way
Gary	Stauffer	Maritime Consultant, Retired NOAA
Neal	Storme	Music Production
Michael	Tolley	Seattle Public Schools
Dana	Twight	Twight Financial Education, LLC
Debra	Zawada	DO-IT, University of Washington



## BALLARD BIOTECH ADVISORY

Members 2014-2015

Reitha Weeks, PhD-Biotechnology Consultant/Shoreline Community College

Randy Howard, PhD-IDRI (Infectious Disease Research Institute)

David Warren, PhD-University of Washington, Atmospheric Sciences

Jason Zacker-ZymoGenetics/Bristol Meyer Squibb

Robert Vizenor- SABArchitects

Jenny Tenlen-SPU, Department of Biological Sciences

Robert Barren-University of Washington

Jenny Thomson-Ballard Community Member

Robert Austin-CTE, Seattle Public Schools

## BALLARD MARITIME ADVISORY BOARD

Active participation – meetings monthly – can provide names if requested

## BUSINESS/MARKETING/IT Advisory Board

Reconstituting members – can provide names and company affiliations if requested

## FAMILY & CONSUMER SCIENCE and HEALTH & HUMAN SERVICES ADVISORY BOARD

Meet five times per year

<b>Advisory Board Member</b>	<b>Representing Industry/ Group</b>
Crickmore, Suzi *	Northwest AED/ American Heart Ass'n.
Marsha Brown	South Seattle Community College
Annika Merz	Seattle Community College - Tech Prep
Trez Buckland	University of WA – Dept. of Nursing/ Health
Bob Tidwell	Education Volunteer
Aileen Gagney	American Lung Association
Nancy Bush	Seattle University; BA programs
Joanne Card	Hearthstone – Executive Chef
Darren Linker	University of WA – Environmental Health
Victoria Wentz	Education Consultant
Adrianna Tossini	WA Dept. of Voc Rehabilitation

## SCIENCE, ENGINEERING, & INDUSTRY ADVISORY

Project Lead the Way Advisory – names provide on request

Auto Collision Advisory

Austin	Bob	Seattle Public Schools
Carlsen	Peter	Total Sale & Marketing
Chapman	Jack	SJI & Pac Assoc.

Hendricks	Brad	Puget Sound Skills Center
Huddleson	Darren	Huddleson's Auto Color World
Ing	Chuck	J&J Collision
Jamison	Jason	Carlyle
Jones	Mark	Britsport of Seattle
Leddy	John	LDC Equipment Co.
MacKinnon	Michael D.	Wesco Auto Body
Meaker	Scott	Boeing
Muto	Myrna	Seattle Public Schools
Nakashima	Tom	Aki's Body Shop, Inc.
Nguyen	Kiet	Kiet Auto Body
Oldfin	Steve A.	PEMCO, Insurance Companies
Burgess	Duncan	SSC
Dillard	Daniel	SSC
Dimartino	Michael	SSC
Ford	Steve	SSC
Martin	Vanessa	SSC
Smock	Erik	SSC
White	Debbie	SSC Worksource

### Welding Advisory

Austin	Bob	Seattle Public Schools
Amero	Rick	Madden Industrial Craftsman
Bhende	Mohit	
Bridge	Lyle	Iron Worker Local 86
Creamer	Andy	Exotic Metals
Eaton	Mark	Boilermakers Local 104
Henderson	Don	Carnitech US Inc./Marel
Jacobsen	Chris	PACCAR
Janson	Jeff	Nucor
Johnson	Kenneth	Vigor Shipyards
Larson	Jan	Covering for David Kirk
Mather	Doug	Vigor Industrial
McKenney	David	Airgas, Inc.
Parker	Ronnie	Central Welding Supply
Pollard	Steve	Machinist Inc.
Reinhardt	James	Forward Fabrication
Rider	Linda	Seattle Jobs Initiative
Stedman	Troy	Capital Industries
Walsh	Jerry	Kvichak Marine Inc
Spector	Jeff	
Baker	Rick	SSCC
Brown	Ocie	SSCC
Burgess	Duncan	SSCC
Dillard	Daniel	SSCC
Dimartino	Michael	SSC
Johnson	Ken	SSCC/Vigor
Lee	Joanne	SSCC
Lockman	Mary	SSCC
Martin	Vanessa	SSCC
Weber	David	SSCC
White	Debbie	SSCC Worksource

## **2012-13 NATIONAL ACADEMY FOUNDATION BUSINESS & COMMUNITY PARTNERS**

Note: Members prefer their company names only but personal names could be provided. Meetings are monthly – September through June with a Summer fundraiser

### **Academy of Finance – Ballard, Chief Sealth, & Franklin**

### **Academy of Hospitality and Tourism – Chief Sealth**

Absolutely Northwest  
Argosy Cruises  
Boeing  
Bolt Bus  
buuteeq, Inc  
Career Path Services  
Central Washington University  
Cognizant  
Conover Capital Management  
Courtyard by Marriott Downtown Seattle Lake Union  
Deloitte & Touche LLP  
Donna Longwell & Associates  
Eagle Strategies/ New York Life  
Highline Community College  
Holland America  
Holland America Princess  
ITT-Technical Everett  
Johnson Scannell & Associates  
K 12 DigiPen Institute of Technology  
K&L Gates  
Key Bank  
KMPG  
Marsh  
Microsoft  
Morse Best Innovation  
North Seattle Community College  
Office of the Insurance Commissioner  
Oppenheimer & Co, Inc  
Parametric  
Pineapple Hospitality  
Polar Marine, LLC  
Professional Claim & Loss Consulting  
RBC Wealth Management  
Roche's Travel  
Russell Investments  
Seattle University – Albers School of Business & Economics  
Sellen Construction  
The Janus Group LLC  
Vulcan  
Washington State Convention Center  
Washington State Housing Finance Commission

## KNHC – WRPA RADIO ADVISORY BOARD

Name	Representing
Charlie Nordstrom	Owner, Bad Animals Recording Studio
Dan Magden *	Remote Engineer, KOMO
David Shield *	Engineer, Solar Energy Systems
Don Iverson *	Principal Engineer, Coffman Engineering
Eric Fraser *	Program Director, KUBE
Gregg Neilson	General Manager, KNHC
Jai Jaisimha	Owner, Open Mobile Solutions
Jamie Hammond	Television Executive Producer
Jill Hudson	Principal, Nathan Hale
Jim McKenna *	Owner, McKenna Gottlieb
Mary Davison	CTE Director, SPS
Michael Dever *	Supply Analyst, Boeing
Myron Partman *	TV/Film freelance producer
Shani Watkins	Director, SPS Skill Center
Shellie Hart	KRWM 106.9
Shepherd Siegel	Director School Engagement Project Lead The Way
Simon Thwaites *	Broadcast teacher, KNHC
Stacy Walters	Vandeberg, Johnson & Gandara
Susan Harmon	Public Radio Capital, Emeritus
Vince Lerner *	Radio Voicework Personality
*Alumni of the program	

## HORTICULTURE ADVISORY BOARD

Cyle Eldred	O’Laughlin Shows, NW Flower and Garden Show
Terri Benson	Little Creek Nursery
India Carlson	Ballard CTE
Jessica Torvik	Hale CTE
Leif Herald	XIP Landscaping/Horticulture
Robert Austin	SPS CTE

### IGNITE – Inspiring Girls Now in Technology Evolution Advisory Board

Manisha Patel – Microsoft  
 Aparna Vishawanathan – Microsoft  
 Karl Ruff, Teacher PLTW Roosevelt HS  
 Mickey Pierce- Consultant, contract work in technology  
 Lynn Kepl – Microsoft  
 Christy Vaughn – Waggener-Edstrom  
 Lisa Sandoval – Department Head of Information Technology at Seattle Central  
 Larisa Golden – Dreamclinic

## TERMS and LINKS

<a href="#">ACE Mentors</a>	Architecture, Construction, and Engineering Mentors – Open district wide
<a href="#">AOF</a>	Academy of Finance – Franklin, Ballard, and Chief Sealth part of the NAF Academies
<a href="#">AOHT</a>	Academy of Hospitality and Tourism – Chief Sealth
<a href="#">CPR</a>	Consolidated Program Review – Audits that OSPI conducts
<a href="#">CREATE</a>	Construction Related, Engineering, Architectural, Technical Experience - Franklin
<a href="#">CTE</a>	Career and Technical Education
<a href="#">CTSO</a>	Career and Technical Student Organizations. These include DECA, FBLA, TSA, Skills USA, HOSA, and FCCLA. Please refer to CTE SPS website for explanations of each.
<a href="#">FTE</a>	Full-time Equivalent – can be used for explanation of teacher workload or student enrollment
<a href="#">GRADS</a>	Graduation, Reality And Dual-Role Skills (GRADS) are programs for pregnant teens and/or young parents that focus on work and family foundation skills of significance to these students. GRADS programs include student demonstration of skills leading to high school graduation and economic independence.
<a href="#">IGNITE</a>	Inspiring Girls Now in Technology Evolution – one of our Nontraditional programs
<a href="#">NAF</a>	National Academy Foundation
<a href="#">Non-Trad</a>	Nontraditional occupations – occupations that employ 25% or less of one sex
<a href="#">OSPI</a>	Office of Superintendent of Public Instruction
<a href="#">PLTW</a>	Project Lead the Way
<a href="#">POS</a>	Programs of Study are detailed guides for students, mapping out specific course options for a chosen career path from high school through postsecondary education.
<a href="#">STEM</a>	Science, Technology, Engineering, and Math