WE EXPECT EXCELLENCE   WE INNOVATE   WE EMBRACE EQUITY   WE COLLABORATE

Aloha High School CTE Program Development

Background Information

Aloha High School currently offers CTE programs in Business/Marketing, Drafting and Construction. Their vision is to develop new, innovative CTE programs in Computer Science & Film/Media that will prepare students for current high wage, high demand jobs. Beginning April of 2016 teachers, counselors and administrators collaborated to determine an area of focus for the program development. The attached report outlines the process, progress, expectations for student achievement, how the remodel will support their efforts and staff requirements.

Recommendation

It is recommended that the School Board review the information and discuss as necessary.

Aloha High School CTE Program Development

Our Vision

- Strengthen current CTE programs Business/Marketing and Drafting & Construction through updating facilities, curriculum, and strengthening community partners.
- Develop new, innovative CTE programs in Computer Science and Film/Media that will prepare students for current high wage, high demand jobs. Build strong community partners who will assist in creating course curriculum that *aligns to industry standards.*
- Design and implement opportunities for students to earn industry-recognized certifications, that assist our students as they enter the marketplace upon graduation. Align courses with local community colleges to provide dual credit opportunities while in high school.

> ***Our goal is that upon graduation, students in CTE programs will have had opportunities to earn free college credit AND obtain industry-recognized certifications to support employment opportunities.***

Our Process

Between April and June of 2016, teachers, counselors, and administrators met to discuss and decide upon an area of focus for program development. The guiding questions found below were used to decide upon our focus of Computer Science and Film/ Media Technology as areas of new development. It was also determined that current CTE programs should be strengthened to better align with the vision and guiding questions.

- ✓ *Are there/ will there be three or more courses in the pathway?*
- ✓ *Is this pathway academically rigorous?*
- ✓ *Is it high interest for students?*
- ✓ *Is there a clear career pathway for post-high school planning?*
  - o *Are there career or industry certifications that students are able to earn?*
  - o *Are there opportunities for Dual Credit?*
- ✓ *What are the associated costs? These include start-up costs, maintenance and professional development*
- ✓ *Does this enhance Aloha's Academic Profile?*
- ✓ *What effect will this have on other departments?*

Our Progress

Drafting/Construction:

- Updating curriculum to help expand student skills in multiple aspects of Construction. Currently in communication with the Paxton-Patterson, as their curriculum provides student experiences on modules that provide hands-on learning in these skills.
- Creating a "Maker's Space," where students will be able to explore new technology that can aid in drafting and construction, such as a CNC router, 3-D printers, and laser cutters.
- Recruiting new community partners to join the Advisory Board and advise on the needs of the industry. These community partners will also assist by:
  - o Advising on certifications and skills that students could earn to improve their marketability upon graduation
  - o Provide internship or job-shadow opportunities for students interested in careers in the field of Construction
  - o Speaking with classes and mentoring students

Computer Science:
- Terry Richesin, a retired engineer with 32 years' experience at Intel, was hired to develop Computer Science program.
- New course offering AP Computer Science Principles to students in 2017-18.
- Program will include IT networking courses that will align to industry standards and provide hands-on learning with a Networking "sandbox" for students to use as they learn.
- Redesigning program to engage attract students. Two courses will offer dual credit through PCC. Two of the new courses will include industry-recognized certifications to support students upon graduation.
- Teacher Is currently pursuing student internship opportunities at Intel. Potential to start in summer of 2017
- Students have organized Aloha's first Robotics Team, with Terry Richesin serving as advisor.
- New Advisory Board developed and currently advising to develop a pathway that will align with industry needs.

Film/Media Technology:
- Engaging student interest through Introductory Film (more than 400 students expressed interest as a course or course alternate in 16-17), Graphic Design (380 students expressed in interest in Graphic Design 1, 80 students in Graphic Design 2, and 23 in Graphic Design 3 in 2016-17) and Digital Drawing (new course with one section in 2016-17) courses.
- Visiting model CTE programs around the state to structure a strong pathway.
- Develop a new TV and Sound production room to provide students with equipment that will prepare them for industry expectations.
- Identifying potential teachers who have (or can obtain) their CTE endorsement and lead the program development.
- Recruiting industry partners to help advise on the development of the program, to prepare students to align with current industry expectations.

Expectations for student achievement

- Student engagement in career pathway increases engagement in school, attendance and graduation rates!
    - ODE reports that students enrolled in CTE programs are more than 15.5 percentage points more likely to graduate in four years than those who are not.
    - Students from every racial/ ethnic subgroup that were enrolled in CTE programs graduated at higher levels than students in the same subpopulation across the state (African-Americans statewide 60.2% v. 84.0% enrolled in CTE; Hispanic/Latino students statewide graduation rate 64.9% v. 85.9% enrolled in CTE; multiracial students 69.8% v 87.6%). 42% of Aloha High School students identify in these three subgroups. Strengthening our CTE programs and increasing our program offerings can help support our graduation rates (currently 76.5% among African Americans, 66.5% among Hispanic/ Latino, and 75.6 among Multiracial students).
    - Students from other subpopulations also graduated at high rates when involved in CTE programs (economically disadvantaged 64.2% v 83.1% when enrolled in CTE programs; students with disabilities 51.5% v. 69.4%; English Language Learners 51.7% v. 65.0%). In 2015-16, 62% of AHS students were economically disadvantaged, 16% were students with Disabilities, and 35% had been identified as an English Language Learner during their school history. Strengthening our CTE programs and increasing our program offerings can help support our graduation rates (68.2% Economically disadvantaged, 60.9% students with Disabilities, 67.9% English Language Learners).
- Student learning goals will be derived from academic learning targets, industry standards, and ODE Career Related Learning Standards. Learning Goals will revise under input from Advisory Board to adapt as industry needs change.
- Based on feedback from several meetings with local business partners in fall of 2016 and January of 2017, student learning goals will include those that center around concept of GRIT, as defined by Dr. Angela Duckworth (UPenn), and other related work behaviors such as collaborative and problem solving skills, punctual and regular attendance, the ability to embrace and learn from failure and embrace a strong work ethic.
- Students will have an opportunity to job shadow or obtain an internship in the career area of study.

How the remodel will support Aloha's efforts

- This remodel will be integral to our efforts to develop relevant and strong Career & Technical Education programs.
- The Construction room has not been renovated since its original construction in 1967. As technology in the industry has increased, it will be important that students have an opportunity to gain experience with that technology. In addition, the renovation will allow Construction to offer additional experiences via new Paxton-Patterson curriculum by creating more space in the Construction area.
- Updating electrical outlets and data ports will be necessary for all spaces under the renovation to support technology needs- the Maker's Space, IT Networking wall, Paxton-Patterson Modules and TV and Sound production room.
- In order to support new Computer Science and Film/ Media, HVAC system needs to be updated.
- *This investment into Aloha High School's CTE programs is creating positive momentum in our community and is helping to attract industry partners. We are excited to capture this positive energy and build upon it!*

Staff Requirements

Business: Currently staffed through building allocation at 2.4. No additional staffing requested at this time.

Drafting/Construction: Currently staffed through building allocation at 2.0. No additional staffing requested at this time.

Computer Science: Staffed at 0.8 through building allocation, 0.2 with additional CTE funding. Requesting full 1.0 APU allocation for 2017-18 school year.

Film/Media Technology: Requesting 0.6 staffing for 2017-18 year (can fill 0.4 in building funds), 1.0 allocation for 2018-19.

Industry Growth Projections

Construction/Drafting

Occupations	Oregon projected growth 2014-24	US projected growth 2014-24
Construction Laborers, building inspectors	21%	8%
Mobile Heavy Equipment Mechanics	9.4%	5%
Roofers	25.8%	13%
Cement Masons & Concrete Finishers	27.0%	15%
Construction & Related workers	15.8%	13%
Construction Equipment operators	12.5%	10%
Drafters	8.0%	-3% *(due to software advancement, increased job competition)*
Architectural & Civil Drafters	9.2%	Included in above

Local Colleges with specialized programs in Construction and Drafting

Portland Community College *(Partnership established)*	Pioneer Pacific College
Chemeketa Community College	NW College of Construction
Clackamas Community College	Clark Community College
Eastern Oregon University	Rogue Community College

Computer Science

Occupations	Oregon projected growth 2014-24	US projected growth 2014-24
Computer Specialists	16.7%	12%
Computer & Information Systems Management	23%	15%
Network & Computer Systems Administrator	14.3%	7%
Computer Systems Analyst	28%	21%
Help Desk/ Customer Service Representatives	13-19%	10%
Computer Programmers/ Coders	3.2%	-8% *(due to global competition)*
Information Security Analysts	20.9%	18%
Web Developers	42%	27%

Local Colleges with specialized programs in computer science

Portland Community College *(partnership established)*	Oregon State University
Clackamas Community College	Western Oregon University
Portland State University	Mt Hood Community College
Oregon Institute of Technology	Clark Community College
Pioneer Pacific College	University of Oregon

Film/ Media

Occupations	Oregon projected growth 2014-24	US projected growth 2014-24
Film & Video editors & Camera Operators	14.9%	11%
Audio & Video Equipment technicians	14.8%	11.9%
Graphic designers	13.2%	3.6%
Multimedia artists and animators	11.5%	6.0%
Media and communication workers	15.0%	10.3%
Creative Producers & Directors	7.9%	9.1%
Broadcast & Sound engineer technicians	8.0%	7.0%

Local Colleges with specialized programs in Film & Media

Portland Community College	Chemeketa Community College
Clackamas Community College	Western Oregon University
Mt Hood Community College	Art Institute of Portland
Eastern Oregon University	George Fox University

All data was collected by the US Bureau of Labor Statistics Occupational Outlook Handbook and the State of Oregon Employment Department Quality Information.

This data suggests that all of these areas are a growing industry. Developing and strengthening these programs with intentional focus on the skills and certifications needed for these occupations will provide students at Aloha High School with potential career-ready skills and the opportunity for employment and continuing education. With similar programs at local community colleges, we can build a seamless pathway for continuing education by offering dual credit at the high school level.

Industry Partnerships

The Automotive Technology Program has a thriving Advisory Board, with members actively providing mentorship opportunities and job shadow opportunities to students, and advise on current needs in local dealerships and related automotive businesses. The developing partnerships in Business/ Marketing, Drafting/ Construction, Computer Science and Film/ Media Technology will be modeled after this strong example of school and community partnership.

Interested Industry Partners

Computer Science		Construction/ Drafting	
Name	**Business Partner**	**Name**	**Business Partner**
Chris May	NVIDIA	Stuart Rice	Bradford Consulting Engineers
Thurman Miller	Intel Corporation	Luke Nodine	LM Nodine: General Contracting
Brad Windecker	Orchestra Software	Chris Johnson	LM Nodine: General Contracting
Paul Ottum	Beaverton School District CS TOSA	Timothy Ayersman	Oh Architecture
Sara Stiles	Intel Corporation	Duane Oglesby	Remodeling Custom Homes
Carlos Rodriquez	Finixpayments		
Business/Marketing			
Name	**Business Partner**	**Name**	**Business Partner**
Mark Masterson	UTB Enterprises/Goldenband	Dennis Foster	Strategic Transport Inc
Lisa Klingsporn	Hillsboro Chamber	Tabitha McCampbell	Hillsboro Chamber
Aaron Johnson	Paychex	Beth Molenkamp	Portland Community College
Hussein Al-Baiaty	The Printory		