

## APPLICATION COVER PAGE

Project Name: Roseburg High CTE Revitalization – Skills for the 21 <sup>st</sup> Century
Amount Requested: \$ <b>367,411</b>

Project Director: Sheri Carson		
District, School or ESD: Roseburg High School		
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Grant Fiscal Agent Contact: Cheryl Northam		
District, Charter School or ESD: Douglas County School District #4		
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Superintendent: Gerry Washburn		
District or ESD: Douglas County School District #4 (Roseburg School District)		
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	Participating High School or Middle School Name	Lead Contact Name	Grade Levels	Student Enrollment
1.	Roseburg High School	Sheri Carson	9-12	1,630

## **A. Project Abstract**

Roseburg High School is developing an interdisciplinary CTE course of study that will align and integrate instruction with 21st Century industry needs that current technological and industry equipment advances require in the workforce. Students will be engaged in design, engineering and manufacturing across the disciplines of Drafting, Construction/Woodworking, Welding/Manufacturing, and Agricultural Science/Technology to increase proficiency in manufacturing and production of a finished product that will meet industry standard. Meaningful partnerships with local business, industry, non-profit organizations and higher education will ensure opportunities for collaboration, communication, training, mentoring, job-shadowing, internships and dual credit to enhance participation and success of all students, including historically underserved students. These endeavors will allow greater flexibility for students to explore various career pathways that may lead to post-secondary education and training or high-wage/high-demand employment.

## **B. CTE Revitalization Grant Vision**

Next year, Roseburg Forest Products, the largest employer in Douglas County, is moving their administration offices to Eugene because they have been unable to recruit highly proficient employees to their company. Alcan Cable and Bayliner Boats left our community during the last 10 years for similar reasons. RHS, along with Umpqua Community College (UCC) and various business partners, strongly support the revitalization of the RHS CTE programs to immerse students in the experiences of local businesses and various industries while simultaneously exposing them to career and technical fields which will build and expand our local economy by meeting the high wage/high demand jobs required in the 21<sup>st</sup> century.

Roseburg High School (RHS) is developing an interdisciplinary CTE course of study that will align and integrate instruction with 21st Century industry needs that current technological and industry equipment advances require in the workforce. Students will be engaged in design, engineering and manufacturing across the disciplines of Drafting, Construction/Woodworking, Welding/Manufacturing, and Agricultural Science/Technology to increase proficiency in manufacturing and production of a finished product that will meet industry standard. Critical to the success of this program will be meaningful partnerships with local business, industry, non-profit organizations and higher education to ensure opportunities for collaboration, communication, training, mentoring, job-shadowing, internships and dual credit to enhance participation and success of historically underserved students. Through the award of this grant we will be able to update equipment and enhance our facilities which will make our program more appealing to students.

The CTE Revitalization will allow RHS to expand the numbers of all students engaged in CTE courses in multiple ways – 1) Collaboration with the RHS Freshman HOUSE staff (an advisory/orientation semester class required for all freshmen to facilitate transition to high school) to develop Freshman Cruise, a rotational schedule that will provide all freshmen information, exploration and exposure to all RHS CTE programs; 2) Development of a CTE survey course for freshman and sophomore students; 3) Development of a CNC (Computer Numerical Control) interdisciplinary manufacturing course for juniors and seniors; 4) Increasing the opportunity for dual credit in partnership with Umpqua Community College, Portland Community College and Linn Benton Community College; 5) Expansion of the equipment available so that more students can actively participate; and 6) Reorganization of the current CTE facilities to mirror industry standard.

### **C. Partnerships**

Meaningful and committed partnerships are integral not only to the success of the grant implementation but to the long term growth, sustainability and viability of the CTE programs at RHS as well. Community partners have been actively involved in grant development in multiple ways. Existing project-based partnerships with local industries, feedback from community meetings and advisory meetings that have included all of our identified partners assisted in determining technology and equipment necessary to not only align with industry standard and high-wage high demand jobs, but to also identify strategies for successfully engaging and impacting more students, including historically underserved students. Community partners have clearly articulated and committed to

long-term partnerships that support continued advisory roles, training for staff and students, job shadows, mentorships and internships, guest speaking, dual credit opportunities, and donations of cash and materials.

Solid project-based learning partnerships connected to Drafting, Welding and Manufacturing currently exist with three local businesses that provide students with experiential learning opportunities relative to design, production and manufacturing. These project-based partnerships currently in place and those we are working to build will allow students to utilize industry standard processes and equipment and receive immediate industry feedback. During the last two years, students have constructed 12 trailers for **North Star Fabrication**, a local company that specializes in steel fabrication and metal fabrication, and **Great Northern Trailers** a custom trailer manufacturer, and assembled light boxes for **Whit-Log Trailers**, also a custom trailer manufacturer. Students also designed and cut wood signs and other wood cut-outs for a variety of other community businesses. Another community partner has also committed to expand project-based learning opportunities. **North River Boats**, a local company designs and builds custom aluminum commercial, government and recreational boats, has been involved with the RHS welding and manufacturing program providing scrap aluminum for student work and practice, donating funds for the acquisition of four new Miller 350P welders, and providing professional development for staff. In addition, students were given the opportunity to intern with their design department.

These businesses have also committed to further expand their partnership roles. North Star Fabrication and Great Northern Trailers will assist CTE staff and students with training needs relative to new equipment and technology, provide guest speakers,

student mentoring, job shadow opportunities and provide internships for advanced students. Along with Whit-Log Trailers, they will establish a cycle of scrap materials for practice and offer raw materials at cost. Whit-Log Trailers will also provide training, develop job shadow opportunities and develop an internship program and increase the number of project-based learning tasks that students can complete in partnership with their business. In addition to continuing in an advisory capacity, North River Boats will expand their partnership by providing guest speakers, assistance with training, additional internships for advanced students, mentoring and production opportunities for small parts used in their facility.

**Umpqua Chapter of Society of American Foresters**, a local chapter of the Oregon Society of American Foresters, will provide guest speakers and mentors and will donate funds to assist with equipment purchase or travel. **Northwest Farm Credit Services**, an agricultural lender and crop insurance provider, will provide training, mentors, job shadow opportunities and donate funds. **Roseburg Forest Products**, a wood products industry and Douglas County's largest employer, will provide 40 paid hours for their employees to serve as guest speakers, training aligned with program needs, mentor students, develop job shadow opportunities and create internships for advanced students. **Seneca Jones Timber Company** owns and manages over 165,000 acres of forestland in Western Oregon. They will provide training, specialized knowledge and expertise, employees to serve as guest speakers, job shadow and field work opportunities and donation of conifer seed for propagation in the greenhouse. Those seedlings will then be planted on Seneca land and monitored over the long term by students. **Nix Manufacturing**, a tooling and machining company whose work ranges

from aerospace production to prototype manufacturing, will provide training to students and staff, become part of a rotation of guest speakers for classes, serve as mentors, provide job shadow opportunities, and develop internships for advanced students. The expansion of partnerships across all of the disciplines will allow more students to be served efficiently and meaningfully. **Douglas County Building Department** has committed to 16-20 hours per year of guest speaking and to inspect student construction projects. They will also provide a complete set of code books to RHS and update them as codes change. Student mentoring and potential ride-a-longs for inspections will also be considered.

**Umpqua Community College** will also be working with RHS to establish additional dual credit opportunities in Welding. Construction/Woodworking will collaborate with PCC to create a dual credit agreement and we will also pursue dual credit opportunities with LBCC for Agricultural Science/ Technology. This would allow students the opportunity to earn up to 52 credits toward an associates' degree. UCC has also committed to support from their instructors for training on new equipment, guest lecturing and guidance with equipment acquisition.

**Umpqua Training and Employment** will help students learn job seeking skills. This will include instruction in "What Employers Want", Resume Development, Application Completion and Interviewing skills. There will be six instructional sessions throughout the course of each school year for all CTE students

**Douglas County Partners for Student Success (DCPSS)** is our Regional Achievement Collaborative linking county-wide partners across education, business/industry, government, non-profits and philanthropies with a collective mission

to support youth cradle to career. Shared resources are available to assist with development and implementation of communication strategies to promote the message, EDUCATION MATTERS –Your Choice, Your Future, Act Now through CTE programming. This would also include connecting with the **Umpqua Valley STEAM Hub** and resources to assist with professional development, NGSS/STEAM curriculum design, mentor support, job shadow and internship opportunities and STEAM learning experiences both in and out of school. These activities will include building upon the existing STEAM summer camps offered through the Boys & Girls Club of the Umpqua Valley, UCC and OSU by developing a 2-day STEAM summer camp that will allow 40-60 seventh and eighth grade students' exposure to and the opportunity to interactively explore all phases of manufacturing specific to the needs of Roseburg industry.

Building and maintaining strong relationships with our current partners and recruiting new partners is of the utmost importance for student success and furthers opportunities for experiential learning opportunities.



Project Outcomes and E. Measures

<b>Area 1 - Improved and sustainable partnerships with business, industry, labor, and educational providers.</b>		
<b>Project Outcome</b>	<b>Progress Markers</b>	<b>Expected Results</b>
1.1 Increase the number and types of business and industry partners.	Gain a minimum of three new partners for each discipline: Drafting, Construction /Woodworking, Welding /Manufacturing, and Agricultural Science /Technology.	Students will learn about business and industry from partners.
1.2 Increase the number of dual credits offered to students with community college partners.	Dual credit offerings for Construction/Woodworking, Welding/Manufacturing, and Agricultural Science /Technology.	With increased dual credit options CTE students will graduate with community college credits that may lead toward a certification in a designated career pathway, an associate's degree or credit toward a 4 year college/university program.
1.3 Strengthen communication with industry and community college partners.	All components of the communication plan will be implemented.	Partners and CTE staff will grow and sustain long-term collaboration including: training, internships, job shadowing, and classroom-based projects for students.
1.4 Develop projects in collaboration with industry partners.	Two classroom based projects will be established for each POS.	Students will gain knowledge of industry standards to complete a project from design to production.
<b>Area 2 – Improved student access to CTE programs of study with particular attention to historically underserved students.</b>		
<b>Project Outcome</b>	<b>Progress Markers</b>	<b>Expected Results</b>
2.1 Increase exposure to CTE courses and programs.	CTE instructors will expose CTE students to multiple POS and career pathways	Students will gain a better understanding of courses, credits, and certifications

	<p>using the following strategies: Development of a rotation schedule with CTE instructors and <u>Freshman House</u> core instructional teachers.</p> <p>Facilitated presentations to <u>Active Ed</u> program for at risk students.</p> <p>Implementation of an annual Tech Night to showcase programs and projects to incoming freshmen prior to freshmen registration.</p>	that lead to high demand/high wage employment.
2.2 Increase Skills USA and FFA chapters with a focus on RHS' historically underserved students.	Underserved student population participating in Skills USA and FFA will increase by 25%.	Student diversity within our CTSOs will lead to more leadership opportunities, higher post-secondary education rates, and higher employment rates for underserved students.
2.3 Develop new Manufacturing POS.	Program will be designed and approved as a POS through ODE.	This POS will increase the numbers of program completers; Increase student exposure to multiple career pathways; Provide greater flexibility in student scheduling for CTE courses.
<b>Area 3 – Increased rigor in technical and academic content aligns to diploma requirements, industry-recognized technical standards such as the Oregon Skill Sets, and employability skills.</b>		
<b>Project Outcome</b>	<b>Progress Markers</b>	<b>Expected Results</b>
3.1 Increase number of projects completed by students that meet industry standards.	Every intermediate and advanced CTE student will complete at least 2 employer based projects prior to graduation.	Students will gain experience in communication and problem solving skills as a member of an effective

		team with local partners.
3.2 CTE instructors will receive training in specialized areas by industry partners.	Instructors will participate in at least two trainings in their specific area.	Students will benefit from expertise of industry recognized technical standards and instruction.
3.3 Every CTE career pathway will be aligned with community college course objectives for dual credit.	Advanced CTE students will be dually enrolled for college courses.	Graduating students will earn college credit and/or earn certifications to be able to continue their POS at community college or technical training institutes.
3.4 Increase professional discourse and collaboration between CTE and core content instructors.	Collaborative work between all instructors at RHS will continue. Strategies will be developed to contextually embed writing and math instruction across all content areas.	There will be a decrease in the number of CTE students requiring remedial strategy courses.
3.5 Develop CNC curriculum.	All students will meet industry standards in at least two CNC processes.	This will result in increased participation on SkillsUSA CNC competitions; Improved career pathway skills; Increased internship opportunities for students.
<b>Area 4 – Increased student awareness of career opportunities through exposure to employers.</b>		
<b>Project Outcome</b>	<b>Progress Markers</b>	<b>Expected Results</b>
4.1 Establish partner job shadow experiences for students.	Job shadow programs will be established with at least 5 partners.	At least 90% of advanced CTE students per year will participate in job shadow opportunities.
4.2 Develop a calendar of guest speakers / advisors from partner businesses.	Each quarter, at least two guest speakers will do presentations to CTE students about job opportunities in the community and the skill sets required.	All students will learn about career opportunities from local businesses and industries.

**Area 5 – Improved ability to meet workforce needs in the region with a focus on high wage and high demand occupations.**

<b>Project Outcome</b>	<b>Progress Markers</b>	<b>Expected Results</b>
5.1 Improved skills for students upon graduation.	<p>Benchmarks for proficiencies will be clearly articulated across all disciplines.</p> <p>Industry certification requirements will be introduced to CTE students.</p> <p>The number of dual credit opportunities through a clearly articulated program with community colleges will be increased.</p> <p>The numbers of students participating in career readiness competitions through SkillsUSA and FFA will increase.</p>	<p>Students will graduate highly fluent in CAD.</p> <p>Students will graduate with dual credits that lead toward a career pathway.</p> <p>Students will have up to 52 possible dual college credits from CTE classes toward an associate’s degree or a 4-year program.</p> <p>There will be a 50% increase in the numbers of students competing.</p>
5.2 Increased business partner projects in the classroom.	Every student will work on at least one partner project each year.	Students will graduate having completed at least one project from the design stage through the production stage that meets industry standards.
5.3 Increased partner internships for students.	Two new internship programs will be established each year of the grant.	At least 12 students will have completed internships by the end of the grant cycle.

**D. Activities and Timeline**

<b>Activity</b>	<b>Outcome(s) addressed</b>	<b>Timeline</b>	<b>Person(s) responsible</b>
<p><b>Equipment Acquisition:</b> Purchases and installation of new equipment, CNC installations, and infrastructure revisions and facility preparation.</p>	1.4, 3.1, 3.2, 5.2	Completed by June 2016	Administration, CTE instructors, District Purchasing Department, School District Physical Plant Supervisor
<p><b>Acquisition of Greenhouse:</b> Purchase and installation of Pre-fabricated Greenhouse and necessary infrastructure.</p>	1.2, 1.4, 3.3, 5.2	Completed by June 2016	CTE Ag instructor District Physical Plan Supervisor, District Purchasing Department
<p><b>Instructor Training - Equipment:</b> We will maximize the expertise of local industry and education partners who have advised the purchase of and have experience with equipment being purchased.  We will also participate in training opportunities offered by equipment manufacturers.</p>	1.3, 1.4, 3.1, 3.2, 3.5	Spring 2016 - Initial training will occur upon equipment purchase and will be on-going for several years to ensure instructors can maximize equipment use to its full potential.	<p>CTE instructors from Drafting, Welding, Woods, Agriculture Science</p> <p>Industry partners that have committed to training.</p> <p>Industry training from vendors we have purchased equipment from.</p>
<p><b>Increase in the Numbers of Ag Classes:</b> Additional classes that will be offered - Crops, Soil Science, Plant Propagation will support additional dual credit and partner project opportunities.</p>	1.2, 1.4, 3.3, 5.2	Fall 2016	Agricultural Science Instructor, Administration, Community College Staff, Local business and industry Agricultural Science

			partners
<p><b>Develop, Apply for and Implement Manufacturing Program of Study:</b> Combine Drafting, Welding, and Woods into one POS and submit for approval.</p> <p>Implement Manufacturing POS.</p>	1.1, 1.2, 1.3, 2.1, 2.2, 2.3, 3.3, 4.2,	Spring of 2016  Fall of 2016	CTE instructors from Drafting, Welding, Woods, Agricultural Science  CTE instructors
<p><b>Plan and Implement Freshman Cruise Rotational Schedule:</b> Collaboratively plan schedule with Freshmen HOUSE instructors.</p>	2.1, 2.2	Planning – Spring 2015  Implementation – Fall 2016	CTE instructors; Freshmen HOUSE instructors
<p><b>Plan and Implement CTE Survey Courses:</b> CTE staff works collaboratively to develop a CTE survey course.</p>	2.1, 2.2	Planning – Spring 2015  Implementation – Fall 2016	CTE instructors; Freshmen HOUSE instructors
<p><b>Curriculum Alignment and Increase in Dual Credit Opportunities with UCC and PCC and LBCC:</b></p> <p>Welding/Manufacturing will align with Umpqua Community College to offer 14 dual credits in Wld 101, 111, 112, and 121.</p> <p>Woods/Construction will align with Portland Community College to offer 8 dual credits in BCT 103,106, 218.</p>	1.2, 1.3	Winter 2015 - UCC credits will be offered.  PCC credits will begin Spring 2016.	Welding / Manufacturing instructor with UCC Welding Instructor and Dean of CTE  Woods/Construction instructor with PCC Dean of CTE

<p>Agricultural Science/ Technology will align with Linn Benton Community College to offer 6 credits in CSS 200, 205, and HT8 137.</p>		<p>LBCC credits will begin Spring 2016</p> <p><b>NOTE</b> – this will increase credit opportunities from 24 to 52.</p>	<p>Agricultural Science/Technology instructor with LBCC Dean of CTE</p>
<p><b>CNC Interdisciplinary Curriculum Development:</b> Drafting, woods, and metals under the manufacturing POS will work closely with industry partners to develop lessons that align with industry standards and protocols for: CNC bench mill and tool room mill; CNC wood routers; CNC plasma cutter; and CNC laser engraver.</p>	<p>4.3</p>	<p>Spring 2016 - Lessons will begin during second semester 2016 and continue to grow and expand for the next several years.</p>	<p>Drafting, Construction/ Woodworking, Welding/ Manufacturing Instructors; Industry partners with extensive knowledge of CNC equipment.</p>
<p><b>Common Collaborative Goals:</b> Create measureable goals with timelines that allow collaboration between all CTE programs. Goals will be written to ensure instructor training, develop job shadow requirements, and common language for meeting benchmarks.</p>	<p>3.2, 4.1, 5.1</p>	<p>Goals will be completed for the 2016-17 school year. Annual revisions will be based on feedback from administration and advisory committees.</p>	<p>CTE instructors, RHS Admin., CTE advisory committees</p>
<p><b>Advisory Meetings:</b> Schedule individual POS and collaborative POS advisory meetings to ensure the alignment of our lessons to industry standards.</p>	<p>1.1, 1.3, 1.4, 4.1, 4.2, 5.2, 5.3</p>	<p>Beginning Fall 2015 - Each POS will calendar at least on advisory meeting specific to their POS. A Second advisory</p>	<p>CTE instructors; Business and industry partners</p>

		meeting will be scheduled and will be a collaborative meeting of all POS.	
<p><b>Establish job shadows and internships for advanced students:</b></p> <p>Work with business and industry partners to design and implement job shadow and internship opportunities.</p>	1.1, 1.3, 1.4, 4.1, 4.2, 5.2, 5.3	Planning – Spring of 2016 Initial Implementation – Fall of 2016 Continued implementation as more job shadow opportunities and internships are added.	CTE instructors; Business and industry partners
<p><b>Guest Presenters from Industry Partners:</b></p> <p>A monthly calendar of guest speakers will be developed for partner presentations.</p>	4.1, 4.2, 5.1, 5.2	Monthly beginning September of 2016	CTE instructors
<p><b>Develop Common Instructional Strategies for Embedding Core Content Skills Contextually:</b></p> <p>All RHS instructors will work on district professional development days to identify strategies for embedding core content skills contextually across all curricular areas.</p>	2.1, 3.4	2015-16 – Writing; 2017-18 - Math with annual review and revisions as appropriate	Administration, all RHS instructors, including CTE instructors
<p><b>CTE Family Night:</b></p> <p>Students in CTE classes will invite family and friends to explain, demonstrate, and</p>	2.1, 2.2, 5.1	One night per semester beginning first	CTE instructors



<p>teach skills they have gained. Individual projects will be displayed along with brochures about CTE course offerings and dual credit possibilities.</p>		semester 2016	
<p><b>Active Ed Presentations:</b> Students and instructors will create power point presentations to inform and intentionally invite RHS <i>Active Ed</i> classes intentionally to enroll in CTE courses.</p>	2.1, 2.2,	Once each semester beginning spring of 2016.	
<p><b>Tech Night:</b> Completed student projects will be on display. All students, families and partners will be invited to attend with a special focus on inviting middle school students and families.</p>	2.1, 5.2	February of each year. (This has been a successful event for two years)	CTE instructors
<p><b>SkillsUSA Preparation:</b> CTE students will design, develop, and manufacture a community needed project. We will communicate with local non-profit organizations to develop a need base list of projects. Skills USA will do the fundraising for materials. All members will have a part in the finished project.</p>	1.4, 2.2,	<p>2016-2017 Designing benches for RHS campus and lettering for top of new gym roof.</p> <p>Each year Skills will solicit and produce at least one community based project.</p>	<p>SkillsUSA advisors</p> <p>SkillsUSA members</p>
<p><b>County Skills Competition:</b> Industrial partners along with Umpqua Community College will develop and run small version of the Oregon Skills USA competitions for drafting, Ag, Metals, and Construction.</p>	1.2,1.4, 2.2, 4.1, 4.2, 5.2	<p>Three schools - 2016-2017; Five schools - 2017-2018; All county schools by 2018-2019</p>	Industry Partners, CTE instructors, UCC, Administration

<p><b>Greenhouse Entrepreneurship Sale:</b>  Student grown products will be sold to public. Agriculture Science classes will connect with industry partners and other CTE programs to determine products and advertise the sale.</p>	<p>1.4, 2.1, 3.1, 3.2, 5.1, 5.2</p>	<p>First Sale - Spring of 2017, becoming an annual project and fundraiser</p>	<p>CTE instructors</p>
<p><b>Middle School Summer STEAM Camp:</b>  2-day STEAM summer camp that will allow 40-60 seventh and eighth grade students' exposure to and the opportunity to interactively explore all phases of manufacturing specific to the needs of Roseburg industry.</p>	<p>2.1</p>	<p>Summer of 2017</p>	<p>CTE instructors  Local STEAM Hub</p>
<p><b>County Fair FFA Showcase:</b>  Student produced projects will be on display at Douglas County Fair side by side with FFA presentations. Industry partners flyers and brochures will accompany the projects with information on programs and project development.</p>	<p>2.1, 2.2, 3.1, 5.2</p>	<p>Beginning summer 2017 and continuing each year</p>	<p>CTE instructors from Drafting, Welding, Woods, Agriculture Science</p>

## **G. CTE Program of Study Design**

Our program will provide expanded and coordinated CTE programs for students enrolled in Drafting, Welding/Manufacturing, Construction/Woods, and Agricultural Science/Technology that includes in-class presentations, field trips, internships, job shadows, and summer programs with regional and community partners. This program will enhance the strengths of each individual CTE discipline while also integrating them into an aligned, cross curricular program that will prepare students for a wide variety of post-secondary education and high wage-high demand careers. This includes designing and developing CTE survey lessons for freshman and sophomores to expose them to additional POS and Career Pathways that will lead to enhanced college and career readiness and higher employability skills. An emphasis will be made to collaborate with guidance counselors and other departments to reach out to historically underserved students through mentoring and the strategic establishment of individual connections with business partners.

The POS in Construction/Woodworking and Metals/Manufacturing currently do not have dual credit offerings, but we are working with Portland Community College (PCC) and UCC to develop credit offerings. Agriculture Science/Technology also has an approved POS with 12 credits for a post-secondary connection. All high school courses offered in the Agricultural Science/ Technology POS can also be counted toward a Science credit, which is helpful to traditionally underserved students. With the addition of the construction of a greenhouse students will have additional course offerings for Crops, Plant Propagation, and Soil Science, which increase multiple career pathways for students to pursue.

CTE instructors will increase their professional competencies and skills through collaboration with business partners and community college instructors in order to provide additional credits for students. The equipment purchased with his grant will enable CTE instructors to combine Construction/ Woodworking, Welding/Manufacturing, and Drafting into one combined Manufacturing POS that aligns with ODE's Manufacturing Cluster Skill Set. This will allow greater flexibility for students, especially historically underserved, to pursue multiple career pathways in each of the four distinct POS.

#### **H. High Wage and High Demand Occupations**

Many of our business partners have indicated their interest and value in partnering with RHS to benefit local industry by providing expertise and knowledge that will enhance the employability of local students which is the future workforce of Roseburg and Douglas County. In southwestern Oregon the demand for the following occupations are all predicted to be over 20% growth across the next decade:

- Computer Controlled Machine Tool Operators, Metal and Plastic
- Industrial Machinery Mechanics
- Machinists
- Maintenance Worker, Machinery Painters, Construction and Maintenance
- Structural Metal Fabricators and Fitters
- Agricultural and Food Science Technicians
- Timber Management
- Computer Numerically Controlled Machine Tool Programmers, Metal and Plastic
- Construction/Building Inspectors

Many of these occupations require at least a high school diploma and are predicted to be both high wage and high demand occupations. This aligns quite well with our proposal for further developing and aligning our Construction/Woods, Drafting, Welding/Manufacturing, and Agricultural Science/Technology programs.

According to the most recent Oregon's Economic Review and Forecast job growth in mining and logging, construction and manufacturing –led by durable goods –will outpace the average industry in 2015, before growing at slower rates over the extended horizon. Gains have been every bit as strong within manufacturing as outside of it with little signs of slowing down. Agriculture remains a major contributor to Oregon's economy. OSU studies estimate that agriculture provides one in every 8 jobs and comprises 15% of Oregon's economy. ([www.oregonbusinessplan.org](http://www.oregonbusinessplan.org)). With our proposed additions to the Agricultural Science/Technology cluster many students will gain skills that can lead to multiple career pathways such as soil scientists, first line supervisors in agriculture/farming, or food science technicians.

## **I Equity**

Roseburg School District (RSD) serves a significant socio-economic population. Sixty two percent of our students are eligible for Free or Reduced Lunch (FRL). Six of eight elementary schools qualify for Title I services with an FRL percentage well over 70%, as do both middle schools.

Currently, RHS' CTE program is very successful at serving 621 students, which is approximately 34% of the total student population of 1,807. Statistics from the 2014-15 school year indicate that the majority of those students are historically underserved

students. The following data indicates the percentage of students in each of the groups participating in at least one Drafting, Construction/Woodworking, Welding/ Manufacturing, or Agricultural Science/Technology course during 2014-15.

<b>GROUP</b>	<b>TOTAL RHS</b>	<b>CTE GROUP</b>	<b>PERCENTAGE</b>
Females	883	152	17%
Economically Disadvantaged	781	257	33%
Students with Disabilities	212	60	28%
Students with Section 504 plans	52	45	87%
Hispanic	150	45	30%
American Indian	192	76	40%
Asian/Pacific Islander	32	10	31%
Black	11	9	82%
White	1,301	562	43%
English Language Learners	4	1	25%

This project will work to increase the numbers of traditionally underserved students through a variety of strategies. A Freshman Cruise program is being designed to expose all freshmen to CTE courses. All freshmen at RHS are enrolled in a Freshman House course. One week of each semester, students will visit 5 different CTE classes that are part of the RHS CTE program. These will include but not be limited to – Drafting, Technical Drafting, Woodworking, Welding, and Agricultural Science. In preparation for the class visits, House teachers will have prepped students with information about career pathways and their benefits and availability, training/education required, courses available at RHS and dual credit opportunities.

Additional presentations will occur within the context of the existing RHS *Active Ed* courses. These courses are developed to address the needs of at risk students who benefit from project based learning experiences. It is the hope that with the additional purchase of equipment and machinery, and the installation of the greenhouse through this grant, more students can be recruited into CTE courses because there will be

greater student engagement. Beginning and intermediate students will have more opportunity to use equipment for project-based learning experiences which increases the likelihood of program completion.

Adaptive equipment (e.g. – welding vests, safety goggles, gloves, saw stop) has already been purchased for those students who do not fit the traditional sizes or those who need additional modifications or safety measures to ensure participation of students with disabilities as well as other students needing accommodations. Staff works closely with student services staff to identify and provide appropriate accommodations and modifications for students who need them to succeed.

Increased mentoring opportunities with local partners to provide more one-on-one time with students also increasing the likelihood of success in CTE courses is one way to ensure success for our historically underserved students. DCPSS will provide support for mentors to ensure culturally responsive strategies are practiced with students. Many of these students prefer hands on activities, experiential learning projects and laboratory settings.

#### **J. Diploma Connections**

All classes offered through the Drafting, Construction/Woodworking Welding/Manufacturing, and Agricultural Science/Technology Programs of Study are designed to meet the state and school district diploma requirements. The first step will be earning credits required for the diploma. RHS requires that three credits and an additional six electives be met through CTE, Secondary Language, or The Arts. The expansion of the CTE programs to enable more students to participate will mean greater opportunity to meet these credit requirements. In addition all courses available

in Agricultural Science/Technology POS may also be awarded Science credits in addition to CTE credits or elective credits.

This project will also increase the number of career-related learning opportunities that support Essential Skills – internships, job shadow, and in-classroom project based-learning. RHS CTE teachers are highly skilled at incorporating reading, writing, and mathematics into the contextual learning of design, manufacturing, fabrication and agriculture. In addition to being CTE certified, the Construction/Woodworking instructor has an endorsement in Science and Physics and the Welding/Manufacturing instructor has an endorsement in Social Sciences.

RHS staff and administration have adopted and implemented a school goal that all teachers address the core academics of reading, writing and mathematics contextually across all curricular areas, including CTE. During the 2014-15 school year, significant professional development time was dedicated to the collaborative work among disciplines to achieve the goal of contextually embedding Language Arts skills. This work was duly rewarded. Smarter Balance Assessment results indicated that 74% of RHS 11<sup>th</sup> grade students met or exceeded the English Language Arts benchmarks in comparison to the state results of 67%.

RHS Staff and administration will continue their focus on increasing student success. This year, writing will be the topic of their collaborative work and next year, math will be addressed.

For students needing extra support, strategy classes have been implemented to provide supplemental instruction to help boost student achievement in the core academics. CTE and Strategy class instructors will collaborate to develop lessons to



assist CTE students in need of extra support in meeting diploma requirements and Essential Skills for graduation.

#### **K. Sustainability**

RSD and the School Board is committed to long term support of full-time CTE staff in the disciplines of Drafting, Construction/Woodworking, Welding/ Manufacturing, and Agricultural Science/Technology. This represents a shift from part-time to full-time status in the last two years. These staff members are all CTE Certified. Budgets for these departments have also been increased by the school board during the budgeting process. The superintendent has a vested interest in CTE and is working to increase opportunities for job shadows and internships. RSD also owns several properties and the superintendent and board have expressed interest that improvement of those properties be designed and completed by CTE students to enhance their experiential learning opportunities.

The RHS Booster Club has membership from our business community which includes many of our industry partners. This group dedicated the auction frenzy funds from their annual fundraising event to CTE. These funds purchased the saw stop – a vital piece of safety equipment.

RHS is proactively expanding our relationships with local business and industry to better understand their goals and needs. We are designing our courses to align with those identified needs. By nurturing and maintaining these relationships, support from the community will increase. This support will not only come in the form of direct student support via classroom time, mentoring, job-shadowing, internships and manufacturing, but also through the continued donation of necessary supplies and materials for our students.

Student entrepreneurship will also be an important piece of sustainability.

Fabrication, production and sales of a variety of classroom-based projects will help fund continued acquisition of materials, consumables, and equipment.

The grant budget for this project is for one-time expenses for the purpose of upgrading infrastructure, acquisition of necessary equipment and the construction of a greenhouse to enhance and expand the identified CTE programs, and associated non-consumable supplies and professional development. RSD will support the costs of on-going maintenance and consumable supplies and necessary preparation of the CTE classrooms as well as on-going professional development and communication strategies through the existing and future district and school budgets and professional development calendars. We are confident that we will be able to maintain the proposed expansion through District funds and community partners well beyond the life of the grant.

#### **L. Communication**

Our communication plan is multifaceted. It is critically important to educate staff, and all students and families to ensure a clear understanding of the CTE opportunities and courses at RHS for all students, including those who are historically underserved. It is equally important to provide information to our partners and the community at large to nurture our long term relationships, inform them of the opportunities and successes of the RHS CTE program and to allow the students and staff to tell their stories personally and through local and social media.

- **Brochures** will clearly articulate and illustrate the RHS CTE programs of study and will be available in both electronic and print form and translated into identified

languages in order to ensure communication to second language students and families.

- **Press Releases/Newspaper Articles** will be provided to the local media at least monthly highlighting CTE program and partner activities and allowing students to tell their stories.
- **Social Media** – Facebook postings will occur weekly highlighting CTE/FFA activities and opportunities.
- **Newsletters** – Electronic newsletters will be generated at least once each trimester and distributed to community partners and posted on the district and RHS websites in English and appropriate translations.
- **Advisory Meetings** – All partners have agreed to serve in an advisory capacity. Advisory meetings will occur at least twice each year. One meeting will be a program specific advisory and the second will be a joint meeting of all of the CTE program advisory teams. Staff will also meet individually with partners at least twice during the year to evaluate and determine strategies for strengthening the partnerships.
- **FFA Exhibit at the Douglas County Fair** – Students will exhibit projects and provide information about the RHS CTE program.
- **Tech Nights** will be held in February with completed student projects on display. All students, families and partners will be invited to attend with a special focus on inviting middle school students and families.

- **CTE Family Nights** will be held each semester beginning in the fall of 2016. Students of CTE classes will invite their families and will explain and demonstrate the skill sets they have acquired. Individual projects will be on display.
- **Re-establishment of the Douglas County Skills Contest** – Two additional county school districts will be invited each year to participate in a local scaled down version of SkillsUSA competitions. Industry partners will host and judge the skills competition. The community at large, students, families staff and administration will be invited.
- **Annual Community Partners' Banquet** will include all partners and will be an opportunity to share successes and nurture partner relationships. Catering will be provided by the RHS Culinary program.
- **Collaboration with DCPSS and the local STEAM Hub** will provide opportunities to communicate via their publications.

## **Bonus Narrative**

### **A. Career and Technical Student Organizations (CTSOs) (7 Points)**

This project will seek to increase the number of students, including non-traditional, historically underserved students, who will actively and successfully participate in Skills USA & FFA. In the proposed course of study, Drafting, Construction/Woodworking, Welding/Manufacturing, and Agricultural Science/Technology students will have more opportunities to design and complete projects using advanced technology to perfect their skills for competitions. There will also be increased opportunities for Agricultural Science students to develop agricultural projects and products that will enhance their competitive opportunities.

Roseburg High school has had a history of successful involvement with both SkillsUSA and FFA earning state and national awards. However, membership has not grown significantly over the last several years due to budget cuts, lack of new technology and adequate facilities. Currently, only 20 RHS students are members of FFA. Last year, SkillsUSA has a membership of 48 students. One of the RHS SkillsUSA members is the current SkillsUSA State President. Both organizations will gain significant benefits from the grant project. New equipment and upgraded facilities will allow more students to be actively engaged in design and production. The greenhouse facility will provide the necessary structure and tools for the Agricultural Science program so more students can be better prepared to participate in competitions that involve soils and plants. Students will also have the opportunity to engage in entrepreneurial activities that will positively impact the school community as well as the local community at large.

Increased student participation in these organizations will also contribute to the kinds of experiences that will hone leadership via chapter and state offices, academic and personal growth through individual competitions and, ultimately, opportunities for awards, local, state and national recognition and scholarships for more students.

