

APPLICATION COVER PAGE
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Project Name: <i>IT Careers in Rural Oregon</i>
Requested Funding: \$ 108,061.80

Project Director: Karen Patton		
District, School or ESD: Wallowa Education Service District, Region 18		
Address: 107 S.W. First Street, #105		
City: Enterprise	State: Oregon	Zip: 97828
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Grant Fiscal Agent Contact: Judith Robb, Business Manager		
District, Charter School or ESD: Wallowa Education Service District, Region 18		
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Superintendent: Edward M. Jensen		
District or ESD: Wallowa Education Service District, Region 18		
Address: 107 S.W. First Street, #105		
City: Enterprise	State: Oregon	Zip: 97828
Phone: 541-426-7600	Email: ejensen@r18esd.org	

	Participating High School or Middle School Name	Lead Contact Name	Grade Levels	Student Enrollment
1.	Joseph Charter School	Rhonda Shirley	9-12	72
2.	Grant Union High School	Guy Johnson	9-12	276
3.	Arlington Charter School	Steve Boynton	9-12	37

BUSINESS, INDUSTRY, LABOR AND POSTSECONDARY EDUCATION PARTNERS

The following individuals and/or organizations have reviewed, discussed, and agreed to their part in implementing the project proposed in this grant application:

	Name	Title	Organization
1.	Edward M. Jensen	Superintendent	Wallowa Education Service District
2.	David Harman	CEO	Wallowa County Health Care District
3.	Mark Green	President	Viridian Management Group
4.	Robert Waltenburg	Superintendent	Grant Education Service District
5.	Mike Carroll	Superintendent	North-Central Education Service District
6.	Bob Houser	CEO	Blue Mountain Hospital District
7.	Pat Shaw	Judge	Gilliam County
8.	Dustin Mason	Instructor	Treasure Valley Community College
9.	Terry Basford	Program Coordinator	Treasure Valley Community College
10.			

IT Careers in Rural Oregon is a 15-month pilot program that develops a Career and Technical Education program of study to prepare rural high school students for workforce entry or post secondary advancement into the field of Computer Science, computer support specialist. The program leverages an existing partnership between Wallowa, Grant and North-Central Education Service Districts, known as the Frontier ESDs, and serves their respective regions, a remote rural area covering 11,400 square miles, containing one traffic light and serving 2400 students in 15 schools districts. One school district and one or more businesses in each ESD region will partner with Treasure Valley Community College to design and deploy the pilot. Program design will be year-long professional development for teachers, and credit-bearing instructional materials, hands-on labs, authentic assessment, and career experiences for students.

Teacher professional development will consist of week-long workshops in the summer and quarterly weekend workshops during the school year. Summer workshops will engage teachers in program content, led by TVCC instructors and ESD technology staff. Weekend workshops will focus teachers on implementation, alignment of instructional materials to academic standards, development of applied academic credit, and promoting the program throughout the region. Summer 2012 will engage pilot schools and Summer 2013 will expand to all schools in the Frontier ESD regions.

During the 2012-2013 school year, students will engage in rigorous online coursework aligned to industry-defined skill sets. Students will participate in hands on labs as well as present their learning to various audiences. Students will be assessed using industry-standard certification exams. To culminate their learning, students will apply to and earn career experiences related to the field of computer support.

PROJECT DESCRIPTION

IIA. Project Outcomes and Progress Markers

Oregonians living in remote rural areas face a host of challenges in meeting the needs in their communities. While the array of needs in a small rural community is equal in variation to those represented in a city, the small community does not possess large populations to support programs and, consequently, the small community does not possess the resources to provide for its citizenry the way that an urban area can. A critical and emerging need in rural regions is finding ways to attract skilled workers able to support the growing technology infrastructure in these communities. A second key challenge is for small schools within these regions to find ways to provide cost-effective, relevant dual-credit alternatives for students beyond those of a basic education. *IT Careers in Rural Oregon* is a program designed to meet the need for building a skilled workforce of computer support specialists by establishing a viable school to work program in the schools residing in rural communities.

IT Careers in Rural Oregon will achieve the following outcomes:

Outcome	Progress Markers	Long-term Measures
Improved Student engagement in CTE Career Learning Area Cluster Information and Communication Technology in the Focus Area of Network Design and Administration	<ul style="list-style-type: none">• Increase number of students enrolled in courses• Increased student knowledge and skills• Increased application of knowledge and skill	<ul style="list-style-type: none">• Region-wide student participation• Regional and state increases IT workforce• Increased number of industry-certifications in workforce• State-wide replication of program
Improved teacher knowledge and practice	<ul style="list-style-type: none">• Increased number of teachers in CTE cluster	<ul style="list-style-type: none">• Regional support network of teachers qualified to deliver

	<ul style="list-style-type: none"> • Increased knowledge and skill 	CTE instruction.
Improved rigor in academic content aligned to Oregon Diploma Requirements	<ul style="list-style-type: none"> • Increased course offerings in Applied Academics • Increases in math and science credits earned by students 	<ul style="list-style-type: none"> • Increased numbers of students earning an Oregon Diploma • Increased numbers of students meeting Essential Skill requirements
Improved partnerships between schools business and industry in the region	<ul style="list-style-type: none"> • Increased number of partnerships in the region • Increased number of career related learning opportunities for students 	<ul style="list-style-type: none"> • Region specific IT career pathways • Regional and state increases in skilled IT workforce • Skilled workforce supporting economic infrastructure and expansion

IIB. Career and Technical Education Program of Study Design

IT Careers in Rural Oregon will develop a career and technical program of study that prepares students in remote rural high schools for workforce entry or advancement to post-secondary training in the Information and Communication Technology focus area Network Design and Administration. The program design features established regional partnerships, development of matriculated industry-standard instructional program, year-long pilot in high schools, authentic career experiences for students, planned program revision, full regional rollout, and evidence-based professional development for teachers.

Wallowa, Grant, and North-Central Education Service Districts, known as the Frontier ESDs, serve remote rural regions in Oregon encompassing over 11,400 square miles, and serve 2400 students in 15 school districts. School size and distances between schools have proven to be significant barriers to implementation of programs

beyond those that constitute the most basic education. All schools report high need to offer multiple career paths to students, but most simply do not possess the resources to add programs. And, due to small student populations, these schools find it difficult to recruit enough students to make any program viable.

The Frontier ESDs have a long history of working together to support student learning in this unique environment. Each currently supports all technology needs of their school districts as well as supporting the technology infrastructure of other entities in the region. The establishment of a CTE program is a natural extension of the regional partnerships and technology supports already in place, and program staff will design an instructional program that meets the unique needs of the region and establishes a critical mass of students necessary for program viability.

Staff from Frontier ESDs and Treasure Valley Community College will build a program that matriculates to TVCC degree programs in Computer Information Systems, (CIS Associate of Applied Science). The program content will align to CIS110 and CIS 111, courses currently offered at TVCC, but course delivery will be structured more flexibly to meet the scheduling needs of the high schools. Instructional content will consist of online curriculum, such as Professor Messer's free certification training courses, and industry recommended textbooks, such as *IT Essentials: PC Hardware and Software Companion Guide*. Instructional content is aligned to Oregon Skill Sets in Network Design and Administration. Instructional materials will be managed using an Open Source content management system, such as Moodle. The program will also engage students in hands-on lab experiences at the student's school site or sponsoring ESD. Because effective communication is a critical employment skill, students will

develop and give presentations and publish videos as one means of demonstrating knowledge. Students will display what they have learned by completing a final project. The final project will consist of building a web page using free publishing tools such as sites.google.com. Students will take exams, such as CompTia 220-701 or CompTia 220-702, to acquire industry certifications. Successful course completion will also result in students earning professional technical credits from TVCC as well as high school credits in CTE, math, science, or electives.

To enhance employability and establish school-to-work connections, students will apply to and interview for participation in career learning experiences. In addition to providing technical expertise and support to the instruction portion of the courses, each Frontier ESD will also serve as a business partner to the pilot schools. In that role, ESD computer support personnel will provide informal job shadowing, coaching for hands-on labs, and one paid summer internship per region. Each ESD region has also enlisted the support of one or more additional business partners to provide formal extended job shadowing opportunities for participating students.

Teachers from participating schools will take part in year-long professional development and support for implementing the program. Activities will commence with a five-day summer workshop, held at TVCC in summer 2012. During the workshop, teachers will engage in course content delivered by TVCC instructional staff. ESD computer support specialists will also engage in selected instructional activities.

Teachers will complete pre- and post-assessments to measure changes in learning.

The fall workshop will bring teachers together again with TVCC instructors and program staff. Teachers will learn how to use the content management system as well

as how to create and publish videos online. Teachers will receive additional instruction in course content and instructions for administering pre- and post assessments to students.

In the winter, teachers will attend training, such as that conducted by the Business Education Compact (BEC), to acquire skill for developing credit by proficiency in the program. They will align program content with academic standards so that students demonstrating proficiency can also earn academic credit that meets Oregon Diploma requirements in math and science.

The spring workshop will focus on revision and promotion of the program. Participating teachers will engage with instructional staff and business partners to revise and refine the overall program. Partners will actively recruit new schools to the program and these new recruits will attend a promotional event held in conjunction with the workshop. Administrators will be invited to attend.

In Summer 2013, pilot teachers, TVCC, and ESD computer support staff will engage recruits in instructional program activities. Additionally, pilot teachers will build teacher guides to assist teachers with program implementation.

II.C. Innovation

IT Careers in Rural Oregon will address defined regional needs for establishing a skilled IT workforce and creating relevant, cost effective elective and academic course alternatives to remote rural small high schools. *IT Careers in Rural Oregon* will advance a CTE program of study in Network Design and Administration by applying an evidence-supported model for efficiency and effectiveness into a new program area for remote small schools. The program model will blend readily available online curriculum with site-supported hands-on application and authentic career learning experience into a

cost-effective program that small schools can offer to their students. With technical expertise, established regional partnerships, technology relationships with schools and local business, and expertise in curriculum and instructional support, ESDs are uniquely positioned and poised to play the central role in supporting program implementation. The most desired scenario is that each participating school is will offer the courses in real time in each of their respective schedules. Barriers will likely prevent small schools from operating in this idea; this design allows students to complete courses in a more flexible schedule setting, with teachers facilitating learning rather than directing it. Students can work asynchronously with the teacher and other students enrolled in the courses. And, the program design allows for schools to share teachers; a student in one school could actually access course materials and be supported in the course by a teacher in a different school. Course materials are cost-effective, making use of free, available industry accepted content and lab materials readily available in any setting that uses computers. Career experiences are region specific, yet can be generally applied outside of these regions, giving pertinent job skills to students who wish to pursue a career in a setting inside or outside their region.

IID. Diploma Connections

This program of study is designed to give students knowledge and skills and place them on a career pathway to Network Design and Administration. The program will also afford students opportunities to earn credit by demonstrating knowledge and skill in applied mathematics at Algebra I and higher and lab science, areas that present challenges for students in pursuit of an Oregon Diploma. Participation in the program will not only help students meet credit requirements, the learning model will help cement mathematical and science concepts typically presented in traditional academic settings,

further assisting students to meet achievement standards and Essential Skill requirements in mathematics and science.

The career related learning experiences students engage in will present students opportunities to meet multiple Essential Skill requirements. Learning from technical manuals requires students to *Read and comprehend a variety of text (Informational)*; troubleshooting and fixing various hardware and software problems requires students to *Think critically and analytically and Apply mathematics in a variety of settings*; creating demonstration videos and presentations requires students to *Speak clearly and coherently*; independent learning and participation in job shadow/internship require students to *Demonstrate personal management and teamwork skills*.

This program of study strongly aligns and supports career related learning standards. The program will allow interested students to personalize their educational experience and support their education plan. New courses will create a career path previously not available to schools in the region. Course design supports communication, problem-solving, and personal management. Extended application opportunities in the form of internships and extended job shadowing will allow students to apply their knowledge in the workplace. Applying to and interviewing for the career opportunities support communication and employment foundations, and participation in these opportunities allow students to acquire skills in personal management, problem solving, and career development.

IIE. Activities and Timeline

Winter 2011-2012

Activity	Description/Rationale	People
Needs Assessment Recruit Schools Recruit Business Partners	Improving partnerships between schools, business and industry in the region (Outcome 4) requires early involvement of all players in the process and design of a program	<u>Participants:</u> Frontier ESDs Business School Districts Sherry Cole TVCC Staff <u>Accountability:</u> Karen Patton

Spring 2012

Activity	Description/Rationale	People
Program planning Baseline Data Design Course Content Determine Assessments	Improved engagement in CTE (Outcome1) requires carefully planning a program that meets student learning needs in a flexible cost-effective way. Determining how each outcome is met requires intentional selection of tools aligned to measure the progress/success of each outcome	<u>Participants:</u> Dustin Mason Terry Basford <u>Accountability:</u> Karen Patton
Student registration for courses	Increased opportunities enhance likelihood for improved engagement in CTE (Outcome 1)	<u>Participants:</u> Students <u>Accountability:</u> Pilot School Personnel

Summer 2012

Activity	Description/Rationale	People
Summer Workshop	Engaging teachers in the learning expected of students will help refine the program, further enhancing the likelihood for successful student engagement in CTE (Outcome 1) and will improve teachers knowledge and practice (Outcome 2)	<u>Participants:</u> Pilot Teachers ESD Tech. Personnel <u>Accountability:</u> Karen Patton Dustin Mason
Assessment	Pre – post test teachers	<u>Participants:</u> Pilot Teachers <u>Accountability:</u> Karen Patton

Fall 2012

Activity	Description/Rationale	People
Fall Workshop	Teachers learn to use the content management system and how to create and publish videos, assisting them to increase student engagement and increase knowledge and practice. (Outcomes 1 & 2) Teachers receive additional instruction in course content (Outcome 1 – increase student engagement and Outcome 2, increased knowledge and practice) and instructions for administering pre- and post assessments to students (Outcome 1 – increased student engagement needs to be measured).	Participants: Pilot Teachers Accountability: Karen Patton Dustin Mason
Student begin coursework	Students complete pre-assessment as a means of establishing baseline measures for progress markers for Outcome 1 – Improving Student Engagement in CTE and engaging in improved academic rigor (Outcome 2)	Participants: Students Accountability: Pilot Teachers ESD Tech. Staff
Report	Complete Interim Report	Accountability: Karen Patton

Winter 2013

Activity	Description/Rationale	People
Proficiency Credit Training	Teachers attend training for developing credit by proficiency in the program. They will align program content with academic standards so that students demonstrating proficiency can also earn academic credit that meets Oregon Diploma requirements in math and science (Outcome 3 Improved rigor in academic content aligned to Oregon Diploma).	Participants: Pilot Teachers Accountability: Karen Patton BEC staff
Applied Academics	Establish Credit by Proficiency criteria Establish NCES course codes for credit in applied academics for math and science (Outcome 3 - Improved Academic Rigor)	Participants: Pilot Teachers Accountability: Karen Patton

Spring 2013

Activity	Description/Rationale	People
Spring Workshop	<ul style="list-style-type: none"> Pilot teachers will engage with instructional staff and business partners to revise and refine the 	Participants: Pilot Teachers New Recruits

	<p>overall program (Outcomes 1 – Improved student engagement in CTE, 2- Improved teacher knowledge and practice, 3 – Improved rigor in academic content, and 4 – improved partnerships).</p> <ul style="list-style-type: none"> Partners will actively recruit new schools to the program, who will attend a promotional event held in conjunction with the workshop. Administrators will be invited to attend (Outcomes 1 – Improved Student Engagement in CTE, 2- Improved Teacher knowledge and practice, and 4 – Improved partnerships). (Sustainability is addressed here) 	<p>Administration <u>Accountability:</u> Karen Patton Dustin Mason</p>
Career Experiences	<p>Students apply for career experiences Businesses partners conduct interview and selection process (Outcome 4 – Improved school-business partnerships)</p>	<p><u>Participants:</u> Business Partners Students <u>Accountability:</u> Karen Patton</p>
Planning	<p>Revise and refine program components (All outcomes will be addressed in revision)</p>	<p><u>Accountability:</u> Karen Patton Dustin Mason</p>

Summer 2013

Activity	Description/Rationale	People
Summer Workshop	<p>Pilot teachers, TVCC, and ESD computer support staff engage recruits in instructional program. (Outcome 1 – Improved student engagement, 2- Improved teacher knowledge and practice, 3 – Improved rigor in academic content) Pilot teachers build teacher guides to assist teachers with program implementation</p>	<p><u>Participants:</u> Pilot Teachers New Recruits ESD Tech. Personnel <u>Accountability:</u> Karen Patton Dustin Mason</p>
Data Collection	<p>Pre – post assess new recruits (Outcome 2 – Improved Teacher Knowledge) Survey business partners (Outcome 1 – Improved student engagement in CTE, and 4 - Improved school-business partnerships)</p>	<p><u>Participants:</u> New Recruits Business <u>Accountability:</u> Karen Patton</p>
Reports	<p>Complete Evaluation Submit Final Report</p>	<p><u>Accountability:</u> Karen Patton</p>

IIF. Evaluation

Baseline data will be collected for each outcome at the onset of the program and again at the conclusion of the pilot. The table below illustrates how each outcome and associated progress marker will be measured.

Outcome	Progress Markers	Evaluation
Improved Student engagement in CTE Career Learning Area Cluster Information and Communication Technology in the Focus Area of Network Design and Administration	<ul style="list-style-type: none"> • Increase number of students enrolled in courses • Increases in student knowledge and skills • Increased application of knowledge and skill 	<ul style="list-style-type: none"> • Number of students enrolled in program • Pre-post assessments • Student demonstrations/videos • Student engagement in career learning • Student surveys
Improved teacher knowledge and practice	<ul style="list-style-type: none"> • Increased number of teachers in CTE cluster • Increased knowledge and skill 	<ul style="list-style-type: none"> • Number of teachers in CTE cluster • Pre-post assessments • Teacher Surveys • Observations/Reflections
Improved rigor in academic content aligned to Oregon Diploma Requirements	<ul style="list-style-type: none"> • Increased course offerings in Applied Academics • Increases in math and science credits earned by students 	<ul style="list-style-type: none"> • CTE courses and assessments aligned to academic content standards • Number of Applied Academic courses identified • Number of additional credits earned by students
Improved partnerships between schools business and industry in the region	<ul style="list-style-type: none"> • Increased number of partnerships in the region • Increased number of career related learning opportunities for students 	<ul style="list-style-type: none"> • Number of established partnerships • Surveys • Number and type of career related learning opportunities

III. PARTNERSHIPS

All entities participated in the development of *IT Careers in Rural Oregon*.

Business partners identified needs to be met by the program. Schools participated in instructional design. ESDs provided coordination, technical expertise, guidance with respect to Oregon Diploma Requirements, and an established, evidence-based professional development model. TVCC provided staff expertise and time to design an articulated AA degree program.

During implementation, business partners will provide internships, job shadow opportunities, technology resource evaluations, and feedback on program effectiveness. Schools will provide work stations, lab space, lab materials, teacher release time, and student release time. ESDs will provide coordination, lab space, technical support, equipment, internships, course hosting, conference and video-conference facilities, and alignment to Career Related Learning Standards, Essential Skill and Oregon Diploma requirements. TVCC will provide staff and facilities for teacher professional development and support during school implementation.

Each entity will play an ongoing role in *IT Careers in Rural Oregon*. Business partners will continue to provide job shadows and internships as well as feedback to overall program effectiveness and design. Schools will continue to provide work stations, staff to facilitate student learning, and will pay costs associated with dual credit and/or industry certifications. ESDs will continue to coordinate with program entities, support of instructional services, maintain of lab space, provide conference facilities, provide technical support and host course content. TVCC will provide program feedback and ongoing support to align instruction with articulated program.

Each of the partners is highly correlated to high wage and high demand jobs in their respective regions and in the state of Oregon. Schools are committed to providing a variety of academic and vocational opportunities that prepare students for entering the workforce. Each business partner has identified a need to build a workforce of skilled workers that can support technology networks, and each ESD is recognized as a leader in use and support of technology networks in their respective regions.

This program will create opportunities for students to enter career pathways that train them to enter occupations in the computer specialist and telecommunication support fields, occupations identified by Oregon Labor Market Information System as both High-Wage and High-Demand in each of the respective ESD regions of 9, 13, and 14 as well as throughout the state of Oregon.

IV. BUDGET

IVC. Sustainability

Participating schools and partners will continue providing financial and human resources to support *IT Careers in Rural Oregon* beyond the life of grant funds. The Frontier ESDs will continue to serve the dual role of business partner and program support. Each will continue providing internship opportunities, coordination of career learning experiences, on-site technical support, conference facilities and curriculum and instructional support. Additionally, Wallowa ESD will maintain the content management system and keep technical manuals current with TVCC matriculation requirements. ESDs will continue to recruit students to the program through regular contact with region administrators and teachers as well as promote the program via website and through presentations at regional and state meetings.

Region 13 CTE Coordinator Sherry Cole will provide continued program support around compliance, licensure and other CTE regulatory guidelines.

School districts will allow students to access the program within their class schedules, maintain workstations and lab space, and continue to provide release time to students for career learning experiences. Schools will provide time for teachers to continue facilitation of the courses and, when necessary, release time for teachers to participate in professional development. Schools and/or students will pay for future cost of industry certification exams.

Business partners will maintain career-learning opportunities as stated in each letter of commitment. Additionally, businesses will provide ongoing feedback to assist in alignment of the instructional program to needs of the workforce.

Treasure Valley Community College will continue its assistance with matriculation requirements, course registrations and student transcripts, and support for instructional components of the program.

While continued financial support will increase likelihood of long-term sustainability of the program, foundational components and supports of the program will be sufficiently ingrained within the region to maintain the program into the future. By June 2013, the cycle of program design, pilot and revision will have been completed, credit for proficiency will have been established, and working relationships between schools, businesses and industry will have been established and growing.

V. BONUS SECTION

VA. Communication/Replication

IT Careers in Rural Oregon, while designed specifically to meet the needs of students and small rural communities, is a project that can be implemented in any community where schools, higher education institutions and industry are willing to come together. Most communities have both government and health care institutions with high needs for functional technology infrastructure and strong need for support of the system and personnel, making replication practical in both rural and urban areas. The project design allows partners to tailor a program that meets local industry need, trains students to perform at industry standard and provides the flexibility to fit the schedules of both high schools and higher education institutions.

Lead partners will present the project design and results to school districts throughout the region. The project will be promoted on TVCC and Frontier ESD Websites, and project leaders will present the model as well as results at state level curriculum meetings. Wallowa ESD and TVCC will provide consultation services, on request, for entities wishing to implement the program.

VC.Student Diversity

IT Careers in Rural Oregon activities have been specifically designed to meet the needs of students in rural schools, as these students and communities are underserved when it comes to accessing dual-credit, expanded options, and multiple career pathways. Rural school districts report increasing diversity, but possess limited “purchasing power” to implement a variety of programs to meet the needs of their students. Many schools have only one CTE program and some have none at all. Dual credit/expanded options programs face similar issues in finding enough students to warrant offering courses or programs. Most rural schools do not have physical access to a college campus. And, due to small student populations, there are few students able to take online courses through a community college or university causing these students to be at the mercy of the college schedule. Additionally, colleges give priority to full-time students for online course, further limiting access for rural students. The flexible delivery and regional nature of this proposal offers a scalable, cost-effective option for districts who wish to add dual-credit CTE opportunities to meet the needs of their diverse student populations.