REDMOND HIGH SCHOOL – APPLICATION COVER PAGE

Project Name: Redmond High School – Manufacturing the Future of Redmond
Amount Requested: $474,955

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	Participating High School or Middle School Name (add additional rows as needed)	Lead Contact Name	Grade Levels	Student Enrollment
1.	Redmond High School	Nicole MacTavish	9 – 12	680
2.	Elton Gregory Middle School	Tracie Renwick, Principal	6 - 8	577
3.	Terrebonne Community School	Tom Yahraes	K - 8	407

Please check all that apply:

__x_ This project directly involves Career and Technical Student Organizations
Please note page of proposal that describes this relationship. Page 22, Pages 26 - 27

__x_ This project has a clear connection to STEM
Please note page of proposal that describes this relationship. Pages: 10, 11, 22, 31

Purpose and Scope of Project: Redmond High School's project, "Manufacturing the Future of Redmond," is bringing manufacturing instruction back to our high school. We will create three paths for students, mirroring the state's 40-40-20 goal, that take them from high school to a career in manufacturing. Utilizing diploma options already in place, the first path will take students from school to work while they also earn a Redmond Certificate of Manufacturing Proficiency (R-COMP), guaranteeing they are proficient in industry-required skill sets. The second path will earn students their diploma, their R-COMP, and their Associates of Applied Science degree (A.A.S.), all in five years at no cost to the student. The third path will take students on to a Bachelor of Science degree from Oregon Institute of Technology, in two additional years.

To accomplish this, this grant will purchase industry specified equipment so students can learn through hands on project work guided by their instructor and industry partners who come into the classroom and shop to offer workplace perspectives. From there, students will take their skills to workplace experiences in local Redmond manufacturing businesses. This process will be guided through a dedicated Career Counselor who is responsible for tracking and advising every student in this program and who also serves as the point person for our industry partners. The Career Counselor will visit worksites, observe the students during their job experiences, and provide excellent customer service to our partners. The program will attract and support students through a manufacturing 'summer camp,' open to incoming 9th graders through 12th graders, and through the implementation of the SkillsUSA student group. Finally, a STEM math and science course will be embedded into the program, allowing student to experience real world applications of math and science as they learn manufacturing processes.

Innovation: This project has been innovative since the first planning meetings started last spring in preparation for writing this grant. Upon first mention of the project to our numerous business, agency, and education partners, we had electric excitement throughout the community. Redmond is experiencing huge growth in the manufacturing field and our partners are looking to Redmond High School to revitalize our manufacturing program in order to help meet local workforce demands. Our partners have a strong interest in hiring a local workforce, and Central Oregon Community College (COCC) has a pioneering manufacturing program which they would benefit from filling with skilled and knowledgeable high school graduates.

This project improves significantly on the status quo because it moves our manufacturing program from an insulated, high school 'shop class' paradigm, to a vital piece of an intentional program that just starts at Redmond High School and culminates with students being employed in our own community at highly competitive wages. The project is further innovative in that we plan to blur the lines between high school and our business partners when it comes to training and facility use. As our partners pair with us, so we will pair with them. We plan to make our shops and equipment available to our partners when not in use by students, and we plan to invite our business partners in when we have special trainings on equipment or when we have guest lecturers from the field come talk to our students.

Finally, we plan to reach out to middle school students, underclassmen, and underserved populations through a marketing program run by our own Advanced Marketing class, and through a manufacturing 'summer camp' designed to excite students about this program, and about manufacturing as a career goal.

Integration: This project integrates all the components of this grant into one intentional program for students. It has clear **progress markers** that will allow us to **evaluate** the success of the project by tracking number of students who successfully complete each of the three pathways. We will also track students earning their National Career Readiness Certificate (NCRC), passing the STEM math & science courses, and earning their manufacturing proficiency certificate. The project revitalizes our **Manufacturing Program of Study** and serves our **underserved population**; our free and reduced population. The project makes **diploma connections** through embedding Essential Skills in the program coursework and because 20% of students will earn a high school diploma, 40% will continue on to Community College, and 40% will continue on to a 4-year degree. It meets the grant **timelines** since all components of the project would be complete and in place, and the program would be completely sustainable, by June 30, 2015. The **budget** supports all components of the grant, and our district has committed significant in-kind resources to sustain the project at the conclusion of the grant. The project stands up SkillsUSA, a Career and Technical Student Organization (**CTSO**), and it reaches out to our **middle school** students in order to build and sustain the program. **Out of school time programming** comes in the form of a manufacturing summer camp offering high school credit. The project has the potential for **system change** as we create a template that others can use in order to create opportunities for students, and a skilled local workforce for employers. Finally, it integrates **STEM** through the creation of a STEM math and science class embedded in the manufacturing program with a co-teaching model, which would replace the traditional junior and senior year Algebra II, Chemistry, and Physics classes for students in this program.

Expansion and Growth: Fifteen years ago Redmond lost our manufacturing CTE program due to budget shortages. Since that time our community has spoken loudly – they want manufacturing back at Redmond High School. Taking a leap of faith, our district funded a manufacturing teaching position, and repaired enough equipment to offer a minimal welding program. The response has been huge; we have more students on waiting lists than we have in the classes. Now we want to truly revitalize this program, moving it from a stand-alone 'shop' class to a comprehensive manufacturing program with three career paths mirroring the Oregon's 40-40-20 initiative; a vital link in a much larger school-to-career journey. Each of the three paths will have tightly scripted coursework, taken in a prescribed order, and overseen by a Career Counselor (described in Part 4, section B). This project will be our pilot, allowing us to do the research and development of the program around our manufacturing program of study. At the conclusion of this grant, we will be able to quickly scale up this process to each of our other four CTE programs because we will have the infrastructure built, the partnerships established and the processes ingrained. We believe by the conclusion of this grant, June 2015, we will be able to scale this process to all four of our other CTE Programs of Study, and will also be able to provide training and resources to other districts so that they can do in one year, with multiple programs, what we originally did in a year and a half with just our manufacturing program. We plan to make all of the documentation and resources from this project open source, to be a template for others throughout the state to use as they create similar 40-40-20 pathways for students and as they form partnerships in their communities. We also plan to present our work at local, state, and national conferences in order to share our learnings.

Experiential Learning: Through this project our students will have in-school, hands-on learning experiences, coupled with workplace experience where they can apply their classroom learning. In our planning meetings, we asked our industry partners what skills they wanted students to learn prior to coming to them. Their responses led us to the equipment list (detailed in the budget narrative) we need to set up a shop where students do project-based work to learn the requisite skills. With this complement of shop equipment, and guided practice with their instructor and industry partners, students can learn how to use each machine, and can develop each skill, through creating their own projects through computer simulations, and then building those projects right in the shop. We also plan to copy the business model used in our auto shop, where the community brings in projects that we charge to complete. This will allow our student to gain experience completing real-world work, while also earning money for the program that can be used to maintain and update the machinery in the shop. Students will have these authentic learning experiences prior to completing their required workplace experience with one of our industry partners. In order to further enhance this authentic experience, our partners at Oregon Employment Department (OED) have offered to post all of these workplace experiences (mentorships, internships, job shadows) on their website as 'jobs' to which students would have to apply electronically. This would cause students to create resumes and cover letters, as well as to seek letters of reference. In addition OED has agreed to help our students earn their National Career Readiness Certificate (NCRC), a test indicating proficiency in applied math, reading for information, and locating information. Earning their NCRC would give Redmond graduates a competitive edge in the hiring process.

PROJECT DESCRIPTION

A. Project Outcomes and Progress Markers

Improved and sustainable partnerships with business, industry, labor and educational providers: The entire premise of this grant is establishing, growing, and nurturing partnerships. As we began planning for this grant application, we made personal contact with potential partners. The interest and excitement from our community was palpable. At our initial evening meeting to talk about this grant process, every single partner we asked to join us, did.

Business, Industry, and Labor Partners: These partners will advise us as we determine the required coursework and skill sets students will need to have in order to earn the Redmond Certificate of Manufacturing Proficiency (R-COMP). We also want our partners to be guest lecturers, to come and teach specialty units to our students based on their unique skill sets, to offer after school enrichment opportunities, to share life experience and business know-how with our students, and to serve on our manufacturing program Advisory Board. In addition, our partners will bring students into their workplaces for mentoring, job shadow, or internship experience. Finally, we envision these partners advising us as we purchase supplies and equipment for our manufacturing program. We want to make sure that as we expend resources we are getting equipment that will mirror what students will find in the field. We plan to be very intentional as we revitalize our manufacturing shop.

Educational Partners: We have commitments from both Central Oregon Community College (COCC) and Oregon Institute of Technology (OT) to partner with us as we create our 'school-to-community college' path, and our 'school-to-community

college-to-four year institution' path. Both of these paths require us to work closely with our educational partners to create an intentional path of classes that students will take through high school, then at COCC, and even on to OT. Through this path, students will be able to earn their A.A.S. in 5 years of high school utilizing the Advanced Diploma program offered in the Redmond School District (see Appendix). This program allows students to take coursework full-time at a community college during a fifth year of high school, at no cost to the student.

After earning their A.A.S, another intentionally designed path of coursework will allow students to transfer to OT and earn their Bachelor of Science in an additional two years. Our initial talks with both COCC and OT brought much excitement as we saw that our plan is completely doable with careful planning. This grant would make it possible for us to work through the details and make our plan a reality.

The measurable outcomes for this area would be:

1) The number of partners we are able to start with, maintain, and add as our program progresses. We will start with the seven industry partners who have already signed on and we will add at least one partner each trimester, for a total of ten partners by June 2014, and thirteen partners by June 2015.

2) The number of college credits our students earn per year.

3) The number of successful work experience placements we are able to accomplish.

Improved student access to CTE programs of study: Due to our school district's strong belief in the power of this project, they allowed us to hire a full time manufacturing teacher this school year, which they have committed to fund as long as student numbers support it. In the first trimester of our program, only offering minimal

welding courses, student requests to take the classes are exceeding our capacity. However, the classes we have are currently stand-alone courses that don't move our students toward employment or post-secondary education. We believe that by expanding our program by offering the Redmond Certificate of Manufacturing Proficiency (R-COMP), and a clear path of coursework and skill development, we can greatly improve student access to the CTE manufacturing program of study. Further, upon successful completion of this project, we plan to scale up this idea so that we offer a similar path in our automotive, business, construction and agriculture programs.

Short term progress marker:

1. The number of students in the program who maintain good standing (pass all of their classes) each trimester, compared to students in previous graduating cohorts who took stand-alone CTE courses.
2. The number of students taking manufacturing courses past the introductory level compared to previous cohorts.
3. The number of students in the first cohort who successfully earn their R-COMP.

Longer term progress markers:

1. The number of students who successfully earn their R-COMP
2. The number of students who successfully earn their A.A.S. concurrent with high school graduation
3. The number of students who successfully matriculated to OT, and the number of students who successfully complete their degree at OT.
4. Most importantly, the number of students who successfully gain employment in the field and the wages they earn.

Increased rigor in technical and academic content aligned to diploma requirements, industry-recognized technical standards such as the Oregon Skill Sets, and employability skills: This project will meet all three of these objectives. First, each of the three pathways will be aligned to diploma requirements and Oregon Essential Skills. The coursework progression will be intentionally designed so that a student automatically earns his or her high school diploma by proceeding through the program. In addition, students will receive a strong Science, Technology, Engineering and Math (STEM) education because the pathway will incorporate newly designed math and science coursework that enhances and enriches the students' work in the manufacturing shop and in the computer lab.

In studying the data of the last three years of CTE students, as part of preparation for writing this grant application, we found that the biggest challenges for our CTE students are the math and science requirements past their sophomore year. Student survey data show that our CTE student population finds these courses disconnected from the real world and disconnected from their interests. As part of this project, then, we plan to implement a junior and senior level math and science course that replaces our current Algebra 2, Chemistry and Physics classes for students who pursue any one of the three newly established manufacturing career paths. This new STEM class will be a completely embedded math and science experience. The math and science teachers will work in concert with the manufacturing teacher in a co-teaching model, to teach the math and science principles of the work students are doing in the manufacturing class, specifically in the areas of advanced algebra, chemistry and

physics. This STEM math class will also be articulated with COCC in order to meet the math requirement for their A.A.S. in manufacturing. This class aligns perfectly with the feedback our industry partners gave us in our initial meetings with them. Resoundingly, they reported wanting to see students taking advanced math and science courses, but applied directly to industry.

This project will also incorporate the Oregon Skill Sets through intentional instruction both through the coursework and through working with our partner, Oregon Employment Department, who has agreed to help our students earn their National Career Readiness Certificate (NCRC). This certificate indicates that a student has proficiency in applied math, reading for information, and locating information. The NCRC is nationally recognized, and greatly enhances the competitiveness of an applicant.

Progress markers:

1. Comparing the number of CTE students who passed the embedded STEM math and science courses compared to previous cohorts of students who took Algebra II, Chemistry, and Physics as stand-alone courses.
2. Comparing the number of CTE students take higher level math and science as part of this program to the number of CTE students who took high level math and science in previous graduating cohorts of CTE students.
3. Tracking the number of students earning the NCRC.

Increased career opportunities for students: The most important measure of this program's long term effectiveness would be the number of students who successfully

gained employment in the manufacturing field upon completing the program, and the wages they earned compared to others with similar levels of education.

Short term progress markers:

1) The number of students who, while in high school, successfully completed their mentorship, job shadow, or internship opportunities.

2) The evaluations the employers did of the work students performed.

Long term progress markers:

1) The number of students who were successfully employed in the field upon completion any of the three paths of the program.

2) The wages earned by those successful students.

Improved ability to meet workforce needs in the region: One of the driving factors in Redmond High School applying for this grant is the gap between the number of unfilled, available jobs, and the number of high school and college graduates who cannot find living-wage local employment. In working with Redmond Economic Development Incorporated (REDI) and OED, it quickly became apparent that the gap to be filled is in manufacturing. According to OED, over the past three years manufacturing employment, mostly concentrated in the areas of metal and wood manufacturing, grew 15% in Redmond, compared to 7% statewide. OED is experiencing a sharp increase in job listings in manufacturing but are unable to find local qualified applicants for those jobs. Similarly, local manufacturing partners report being unable to fill their open positions, even through statewide recruiting efforts. This program, then, seeks to close this gap in order to benefit both students and employers. Short term progress marker:

1. Tracking the number of students in our program who successfully complete their R-COMP.

Long term progress marker:

1. Decrease in the number of local unfilled manufacturing jobs in Redmond as tracked through OED data.

2. Increase in the number of Redmond High School graduates who successfully apply to and are hired into local OED manufacturing job postings.

B. Career and Technical Education Program of Study Design: "Manufacturing the Future of Redmond" will create a comprehensive Manufacturing Program of Study that offers three paths of choice to students, mirroring the State of Oregon's 40-40-20 goal.

Path 1 - School to Work: The first path, tailored toward 20% of our target student population, will be a "school to living-wage" employment path. Students on this path will work toward a standard high school diploma while at the same time earning a Redmond Certificate of Manufacturing Proficiency (R-COMP), a certificate we will develop in partnership with our business partners and our Manufacturing Advisory Board. Through initial meetings with our seven manufacturing business partners, we identified skill sets, coursework, and proficiencies deemed necessary to the field of manufacturing. In addition, all of our current industry partners have agreed they will guarantee an interview to any student earning an R-COMP. This does not guarantee a student will be the successful applicant, but it will give him or her an advantage in the hiring process.

As we add industry partners through this project and beyond, we hope the R-COMP will come to be recognized throughout Central Oregon. The culmination of this

path for each student, then, will be a workplace experience; either a job-shadow experience, a mentorship, or an apprenticeship, as well as completion of their Manufacturing Career Portfolio. Through this prescribed path of coursework, workplace experience, and demonstrated skill proficiency, a student will earn his or her R-COMP while also earning his or her Standard Diploma.

Path 2 - School to Community College: The second path, tailored to 40% of our population, will be a "high school to community college" path. In this path, students will complete the R-COMP and high school diploma as in path #1. In addition, students will earn their Associate of Applied Science from our local community college, COCC, free of charge to a student or his/her family.

Our ability to offer this option for students rests with two unique programs already in place in the Redmond School District. The first is called Advanced Diploma and the second is called Expanded Options.

The Advanced Diploma program allows a student to 'opt up' for a more rigorous, 27 credit, high school diploma. This diploma, called the Advanced Diploma, requires college credits in addition to the Standard Diploma (see Appendix). In practice, students finish the requirements for their Standard Diploma in the first four years of high school, then spend a fifth year pursuing classes full time at COCC toward this more rigorous diploma. These courses at COCC also count toward the student's Associate degree.

Expanded Options is a complementary program which allows students to take courses at the COCC during their first four years of high school. These courses have to be courses not available at Redmond High School. The point is for students to 'expand'

their options of courses available during their high school experience by accessing courses offered at COCC. This program is also free of charge to the student.

Using both of these programs, and through carefully sequenced coursework, we will create a path that includes some high school coursework and some community college coursework, all within the five years of high school covered by the Expanded Options and Advanced Diploma programs. With this carefully sequenced program, students can emerge after five years with both their high school diploma and their Associate of Applied Science degree through COCC's MATC program.

In this plan, starting their junior year of high school, students will take courses through the Expanded Options program that 'double dip;' that allow them to earn both high school and community college simultaneously. These courses will be specifically selected because they are requirements for the MATC program that also count toward Redmond High School graduation requirements. Examples of these classes include COCC's Technical Math class (Tech Math 85) which counts for 4 college credits and also counts for a full year of high school math, and Introduction to Computers (CIS 70) for 2 college credits which also counts for a half year of high school credit.

When students complete all requirements for their high school diploma through a combination of on-campus high school coursework and Expanded Options coursework, they can move on to full time work at COCC. There, under the Advanced Diploma program, students can complete the remaining coursework in the MATC program, finishing their Associate's degree in their fifth year of high school. This allows students to graduate after five years of 'high school' with their high school diploma, their R-COMP, and their Associate of Applied Science degree – all at no cost to the student.

Path 3 - School to Community College to 4-Year Degree: The third path, tailored to 40% of our population, concludes with students earning their four year degree from Oregon Institute of Technology (OT). In this path, we will partner with OT and COCC. Students will start by earning their A.A.S. within their five years of high school, as explained above. From there, students will transfer to OT for their four year degree. We will create a prescribed course path for students that ensures all of the coursework they take, through high school and at COCC, will directly transfer to OT toward a Bachelor of Science degree. Since students would enter OT with an A.A.S., a two-year degree, they will be able to graduate from OT with their 'four year' degree, in only two years of additional coursework at OT. All three of our institutions are very excited to create this opportunity for students and to hopefully start a precedent for other technical programs at our school, in our district, and in the region.

C. **Underserved Students:** Redmond School District serves 7000 students, 60% of which are economically disadvantaged. According to data collected by the City of Redmond and Redmond School District, the largest factor in students' low economic status is prevalent unemployment among parents. This project seeks to break this cycle of poverty by providing our students with the skills and education they need to be employed in living-wage (or better) positions in our community. Salary surveys from OED and REDI show that the average annual manufacturing salary in Central Oregon is currently $48,000 per year, with the lowest wage job in the field earning $33,284 and the highest earning $60,601.

In looking at the data collected from our own districts' successful Community Schools, schools that use grant monies to support economically disadvantaged

students, we know that three factors increase these students' success: 1) Identification and outreach, 2) school connections outside the regular school year, 3) an adult who keeps track of them, frequently checks in with them, and who helps them through processes unfamiliar to their parents. Using what our district has already learned, then, we plan to break the cycle of unemployment for our graduates by replicating these structures in our manufacturing program through three intentional strategies:

1. Targeted marketing: This will take place through our own Advanced Marketing class creating brochures and multi-media informational materials about this program intended to excite and inform students and families about the program. These materials will be shown or distributed to our own students, and to students and families at our local middle schools. We will also post the materials on our website and on our Facebook. They will also be distributed to high school parents through a parent information night and to families during our annual registration process. The materials will explain the three pathways within the Manufacturing Program of Study, and will emphasize how the first two pathways could be completed at no cost to the family. We will also seek to create local scholarships and work-study programs with our partners to support students wanting to continue on to a four year degree.

2. Manufacturing 'summer camp' program: Our Manufacturing Summer Camp program will reach out to economically disadvantaged students. Manufacturing Summer Camp will consist of a two week program, staffed by the manufacturing teacher and the Career Counselor, for the purpose of sparking interest in the field of manufacturing. Students will earn a half credit toward their high school diploma upon successfully completing the program, which can be repeated for credit each subsequent

summer. Over the course of several summers, students will have the opportunity to move into leadership roles, serving as role models to younger students. This program will serve incoming 9th graders (the summer after their 8th grade year) through 12th graders. During the two week camp, students will tour local industries, hear guest speakers from local businesses, and have mini-courses in Computer Aided Design, welding, shop skills, 3-D printing, and other highly engaging areas of manufacturing. They will also complete a personal project which they will share in an evening celebration ceremony in front of their parents, the CTE staff, local media, and our partner businesses and organizations from this project.

3. Career Counselor: The Career Counselor will closely track and offer academic and social-emotional supports to students in the program to create a support structure for success. The Career Counselor will also help students find scholarship opportunities and apply for admission and for financial aid if they seek a four year degree, or the counselor will transition graduates to OED as they seek employment.

D. **Diploma Connections**: As described in Section B, through participating in this Manufacturing Program of Study, students seeking the Standard diploma will take a prescribed set of courses and do a prescribed set of skill demonstrations to earn their diploma plus their R-COMP. Students seeking the Advanced Diploma will take a prescribed set of coursework which articulates with COCC and will earn their high school diploma, plus their R-COMP, plus an A.A.S. from COCC, all concurrently. The R-COMP component of both diploma options would include a mentorship, a job shadow, or an internship with one of our manufacturing partners. Students in this program will receive individualized advising, academic support, and placement in a

workplace experience (mentorship, job shadow, or internship) through our dedicated Career Counselor. With the help of the Career Counselor, a student will also complete a personalized career portfolio which includes a resume, a cover letter, letters of recommendation, a narrative about their workplace experience, performance reviews from this workplace experience, and it will house the various certificates of skill proficiencies which earn the student his or her R-COMP, as well as the student's National Career Readiness Certificate. For students moving on to Oregon Institute of Technology, this portfolio will also house support items for the college admission process such as the student's personal essay, their Free Application for Federal Student Aid (FAFSA), and their application materials.

E. **Sustainability and Communication**: Our district is so committed to this manufacturing program of study that we have already hired a manufacturing teacher on a continuing contract. The district has also committed to funding an extra .5 FTE at Redmond High School, past the life of the grant, to support the Career Counselor position. Redmond High School will carve the remaining .5 FTE out of our allotted staffing to continue supporting the full time Career Counselor. Given the fact that we reached student capacity the first trimester we offered classes, and since our student body is steadily growing, we see not only stability, but growth. We also have strongly committed industry, agency, and educational partners because the success of this program will contribute to their success. COCC needs students to feed into its Manufacturing and Applied Technology Center (MATC), OED needs qualified applicants to fill local job openings, and our industry partners need a skilled local workforce. We plan to sustain these partnerships through regular quarterly meetings, and through

partner workplace visits by our manufacturing teacher, our Career Counselor, and our principal. We also plan to employ follow up surveys and to conduct partner needs assessments to ensure we offer our partners excellent customer service. We further plan to expand our list of partners by active recruitment through industry networking, especially through Redmond Chamber of Commerce's "Coffee Clatter" program which occurs every Friday.

Redmond School District also employs a talented Communications Director who is currently creating partnerships with local media. She is excited to help with this project as it showcases the innovation of the district as well as offers numerous avenues for positive media coverage as we begin to have student and industry success stories to celebrate. We plan to develop a promotional video that we can share with families and our community, and to go on a roadshow, sharing the video and highlights from the program as we recruit new industry partners.

The data that we collect from this project will also give us the basis to scale this project up; to create similar projects with our other four Programs of Study – business, construction & woodworking, agriculture, and automotive. We also hope to share this project at local, state and national CTE conferences to create even larger scale.

F. **Activities and Timeline**:

Career Counselor: Immediately upon notice of receiving this grant, we will post and hire the Career Counselor position. This person would be critical in all further stages and we plan to have the Career Counselor in place by February 1, 2014.

Partnerships: Establishing partnerships has already begun. We have established partnerships with COCC and OT to articulate college classes and create clear paths of

coursework toward students earning their A.A.S. and/or B.S. degrees. In January 2014, we would also immediately begin working with designated point people at both institutions to solidify the course requirements in these paths. Our outcome would be a complete pathway document by March 2014, in time for student registration for the following school year and in time to produce video and print marketing materials including this information, to maximize student enrollment in the program. We have also already established industry partnerships in order to provide workplace learning experiences for our students. We currently have partners willing to place students, and we would continue to recruit industry partners so that we met our goal of at least one placement option for each student in the program.

Equipment: Based on the meetings with industry partners we had in preparation for this grant, we have completed our list of industry recommended equipment purchases. We already have price quotes and suppliers lined up. Should we win this grant, we are prepared to order equipment on January 1, 2014.

R-COMP: Work on the requirements for the R-COMP certificate will begin immediately in January 2014. Together, our industry partners, our manufacturing teacher, our regional CTE director, and our building principal would determine the list of requirements. The outcome of this process will be a complete list of certificate requirements by September of 2014, for our first cohort of students.

NCRC: Work will also begin immediately in January 2014 on embedding the requirements to earn the National Career Readiness Certificate into our manufacturing program of study. The will conclude this curricular work by June 2014 and it will be implemented September 2015.

STEM: Creating the rigorous STEM math and science course embedded in the manufacturing program of study would begin immediately upon receiving the grant in January 2014. We will offer a teaching stipend for development of the curriculum and our outcome will be to have the course up and running in September 2014.

Cohort #1: By September 1, 2014, our first full cohort of students would be enrolled in the program and by June 30, 2015 we would have our first group of successful R-COMP recipients and our first group of student moving on the COCC to earn their A.A.S. From there, the program will be self-sustaining and scalable.

SkillsUSA: We have our application materials ready and have already approached students who are excelling in the welding courses to be our start-up officers. We are prepared to stand up SkillsUSA starting in January 2014.

Manufacturing Summer Camp: Curricular work on this camp will begin during spring break, in March 2014. This grant contains five extra days of pay for our manufacturing teacher and our Career Counselor to design this camp.

G. **Evaluation**: This project lends itself well to evaluation, as described Section A, Project Outcomes and Progress Markers. The evaluation plan for each of these progress markers is described in the table below:

Planned Outcomes	**Activities**	**Measurements**	**Goal**	**Timeline**
Increase number of industry partners throughout the timeline of the grant.	Partner quarterly meetings, worksite visits, ongoing communication, recruitment efforts	Count the number of partners each trimester during the course of the grant.	Increase one partner per trimester - from 7 partners January 2014 to 13 partners June 2015.	From Jan. 2014 to June 2015. Monthly worksite visits, quarterly meetings, weekly email or phone communication.

Increase the number of college credits earned by students in the program.	Students earn college credits through Expanded Options and Advanced Diploma	Count the number of credits student in the Manufacturing Program of Study earn	By June 2015, 50% of students will earn 15 college credits by graduation.	Ongoing – count college credits at the end of each trimester, from January 2014 to June 2015.
Increase the number of manufacturing students completing workplace experience	Students placed with industry partners in mentorships, internships, job shadows.	Count the number of students completing the experience and earning credit.	50% of Cohort 1 students will complete a workplace experience and earn credit for it by June 2015.	Ongoing – from January 2014 to June 2015.
Increase number of students earning R-COMP	Students complete coursework and demonstrate skill proficiency.	The number of students earning the R-COMP.	50% of students in the 1st cohort will earn the R-COMP by June 2015.	From January 2014 to June 2015.
Increase number of students passing STEM math & science	Students take STEM math & science courses junior and senior year.	The number of students in welding course passing STEM course as compared to prior year students passing Algebra II and Chemistry or Physics	From 30% pass rate (June 2013 data) to 50% pass rate by June 2015.	Ongoing – calculate STEM pass rates each trimester through June 2015.
Number of students taking STEM course	Students take STEM math & science course junior and senior year.	# students enrolled in STEM math & science course compared to # previous year CTE students enrolled in Algebra II, Chemistry or Physics	75% of Cohort 1 students manufacturing students will enroll in STEM math & science course in the 2014-2015 school year.	Counseling & advising spring of 2014 for the 2014-2015 school year registration in STEM course. Enrollment in course September 2014.

# of students earning NCRC	Students work with OED to earn NCRC.	Number of Cohort 1 students earning NCRC.	50% of manufacturing students earn by June 2015.	Students work with OED Sept. 2014- June 2015.

PARTNERSHIPS:

This grant proposal is as much driven by our partners as by our school. Our journey started in March of last school year, as we anticipated the opportunity to apply for this revitalization grant. As outlined previously in this application, our manufacturing industry partners are unable to hire the skilled employees they need, despite offering high wages. In addition, COCC has built a strong and vibrant Manufacturing and Applied Technology Center, but struggles to attract local high school graduates to the program, despite an enviable record of graduates obtaining high paying jobs upon graduation.

Attracting students to the profession as high school students, then, is a key to changing this. As Redmond High School began planning for this grant application, we had a series of meetings throughout the community. First we met with Oregon Employment Department and Redmond Economic Development Incorporated to determine which area of industry should be our focus. Both groups clearly steered us toward manufacturing, citing numerous statistics and economic indicators driving this recommendation such as the annual manufacturing salary in Redmond of $48,000 per year, with the lowest wage job in the field earning $33,284 and the highest earning $60,601, and the 15% growth in manufacturing employment in Redmond, despite downward trends in most other major areas of employment in our area.

From there we went to our Superintendent, School Board, and Educational Service District. We pitched the basics of our idea to use this grant opportunity to revitalize our manufacturing program. Our superintendent and school board were so excited by the prospect that they allowed us to go ahead and hire a manufacturing teacher to kick-start the process.

Next, we met with industry partners and asked them what they wanted to see incorporated into our proposal. They gave us feedback on skill sets, educational outcomes, and soft skills they wanted applicants to have. They also gave us advice on the types of machinery we needed in our shop and the computer skills we needed to teach. From there we created two partner sub groups, one tasked with creating the equipment list, and one tasked with creating the curriculum and program components. In addition, our partners told us, in no uncertain terms, that for this project to work, we needed a point person at our school who would get to know them, who would learn each of their businesses, who would track student progress and create student support structures, and who would make informed decisions about the 'right' student to place with each of them for the student's workplace experience. This recommendation formed the basis for the Career Counselor position. From there, we met with our COCC and OT partners, to determine how we could utilize the Advanced Diploma program we already had in place to support students as they obtained post-secondary education.

To say that our industry partners are excited about this project would be an epic understatement. They have agreed to support us through: tours of their facilities, guest lectures, workplace experience placements for students, mock interviews with students, donations of equipment & materials & supplies, specialized equipment training,

reviewing student portfolios, advising our teacher, and through recruiting other industry partners. Even those partners who did not see an immediate impact on their business expressed excitement about the impact this project would have in our community. Each of these workgroups have agreed to ongoing work on this project, both to complete their piece of the puzzle, and to continue to meet at least quarterly to improve upon the program as we move into the implementation phases of the project.

PART 5 – BONUS SECTIONS

A. Career and Technical Student Organizations (CTSOs):

As part of this project, Redmond High School will stand up a chapter of SkillsUSA. SkillsUSA is a partnership of students, teachers, and industry, working together to ensure America has a skilled workforce.

We believe that this student group will be one avenue to attract students to the program and to offer students leadership opportunities. We also see the SkillsUSA students as vital to our student-to-student marketing plans as we attract students to, and support them in, the program. This student group will visit our feeder middle schools to create excitement about enrolling in the program, as well as design school wide promotional campaigns at Redmond High School. They will also be leaders in the manufacturing summer camp, helping the instructor plan fun and engaging activities.

The student leaders in this group will be ambassadors for our program, attending our partner meetings and making presentations to business and service groups in our community to highlight the program's accomplishments. We will start recruiting students to start this organization in January 2014, in order to have the officers elected, the

bylaws written, and the mission identified before the first manufacturing summer camp in June 2014.

Further, as the program grows and students develop manufacturing skills, we will financially support our students as they travel to regional, statewide, and national conferences and events.

B. **Middle School Component**:

In building a strong and vibrant manufacturing program, we plan to start outreach and recruitment efforts at the middle schools which feed into our high school, Elton Gregory Middle School and Terrebonne Community School. Utilizing our SkillsUSA officers, our Career Counselor, and our manufacturing program teacher, we plan to give presentations at the middle schools prior to 8th graders as they begin to register for high school coursework. Student to student recruitment is a powerful tool, and we believe that the students in our program will offer the most engaging and genuine messages about the power of the program to their younger colleagues. We also plan to highlight the program, show our promotional video, and distribute print literature to families at our annual pre-registration family meeting, which includes 8th grade families.

In addition, we plan to offer a middle school 'open house' where we bus 8th graders to our school during a school day and walk them through a structured program created by our SkillsUSA students, our manufacturing teacher, and our industry partners. This program will allow the 8th grade students to tour our manufacturing facility, to ask questions, to meet staff and to see the machinery in action.

We plan to create 'stations' around which the 8th grade students rotate so that they can see the equipment in action and even operate some of it with the assistance of the older students, our teacher, and our industry partners.

C. **Out of School Programming:**

To recruit new students and to retain existing students into the program, we will to use summer time as an opportunity to elicit and to deepen engagement in our manufacturing program. We will do this by creating a Redmond High School Manufacturing Summer Camp. This summer camp would be run by our manufacturing teacher and our Career Counselor and would consist of 65 hours of instruction, over two weeks, during summer break. The 65 hours would allow us to offer high school credit for the course, and the course could be repeated each summer for additional credit. The program would be open to incoming 9th graders through high school seniors. It would consist of three components meant to increase awareness of our new program and to highlight opportunities in Redmond for employment in the manufacturing field.

The summer camp experience would be broken into three main components: tours of local industry, guest speakers from industry partners, and mini-introductions to highly engaging components of the manufacturing world, such as Computer Aided Design, welding, shop skills, metal and wood manufacturing processes, and 3-D printing. During this program we would also utilize our SkillsUSA student leaders to provide positive role models to younger students. After the first year of the program, these students would also be able to relate anecdotes from their work experiences to peak student interest. As a capstone activity, students would complete personal manufacturing projects of choice, either alone or in small groups. Student would

present their projects as part of an evening presentation to which friends and families, project partners, local media, RHS staff members, and educational leaders would be invited.

D. **Focus of Regional, Statewide or System Changes:**

We want our project to scale. We plan to systematize each phase of this project so that we can scale it up to each of our other four Programs of Study here at RHS: business & marketing, agriculture, construction & woodworking, and automotive. From there, we want to scale the program to other high schools in our region, and then hopefully to high schools across the state. We believe that if we intentionally create the three paths of study for our students, as outlined in Section B, that others can use our work as a template to do the same.

We hope that by hashing out these coursework agreements, that we can establish a precedent for ourselves and others to do similar work more easily in the future. The R-COMP idea could be replicated with other industry partners, and in other communities, throughout Oregon. The outreach and marketing materials we create could be used as templates for other programs or districts. To these ends, we plan to make all of our materials open source and to share them freely. We also hope to have the opportunity to share our project at local, statewide, and national conferences.

We truly see this project as a win for our students and a win for our community, and we believe that many communities, especially those in Central Oregon, have many of the components already in place to set the stage for this type of project to be successful. Redmond High School and the Redmond School District have a strong

commitment to Career Technical Education and we see it as a vital piece in the puzzle of our community's improving economy.

E. **Science, Technology, Engineering, and Mathematics (STEM):**

This project will be built around the STEM concept as junior and senior math and science content is embedded right into the manufacturing coursework. From studying the data of our current CTE students, we know that the areas in which they struggle most academically are science and math. The highest percentages of failure for these students are in these two areas, which seems counterintuitive since these students are choosing technical fields as their electives.

From survey data, we know that students report being 'bored' and that they don't find the traditional junior and senior math and science offerings (Algebra II, Chemistry, Physics) to be engaging. However, through a co-teaching model which brings the math and the science teachers right into the manufacturing classroom, we hope to shift this paradigm.

In this model, the math and science of each course will be taught right within the manufacturing unit itself. The math and science teachers will partner with the manufacturing teacher to create and teach highly engaging lessons, to ensure full integration of the Common Core State Standards, and to track student success on these standards to ensure that by the conclusion of the program, students have met all standards necessary for their math and science credits, as well as the manufacturing content and skill sets.