

**Title:** Better Education throughout Oregon

**Governor's Policy Initiative:** Develop a student-centered, aligned education enterprise

**Description:** Oregon is poised to make great gains in educational quality at all levels. The K-12 system is currently engaged in critical self-evaluation, and is seeking outside appraisal and recommendations for improvement. Legislative impetus in the form of additional required high school coursework adds vigor to the K-12 initiative. At the post-secondary level, community college and university faculty, at both public and private institutions, are collaborating in unprecedented ways to insure maximum transferability of foundational coursework, while maintaining the rigor and coherence of programs. Similar cross-sector collaboration is identifying strategies that encourage students to persist in their studies and complete degrees. Even broader collaborations, involving industry and non-profit organizations, are aimed at improving the education of teachers and engineers, and of increasing Science literacy, generally. Meanwhile, technological advances are extending the reach of campuses, and eliminating geographic barriers to higher education. This proposal seeks funding for specific initiatives that will build on the present momentum to create an integrated educational system that is effective and student-centered. These initiatives are outlined below, and described in more detail on the following pages.

## **1. Preparing pre-service and in-service teachers to better meet Oregon's K-12 educational needs**

### **Expected outcomes:**

- Identification of curricular pathways that are optimal for prospective teachers and that allow entry into the teaching profession from multiple starting points
- Improved pre-service preparation and in-service professional development for working with ELL and for teaching Math and Science.
- More effective recruitment of outstanding students who wish to become teachers

**Total budget request for biennium: \$4,000,000**

## **2. Promoting college readiness in Literacy, Writing, Mathematics and Science**

### **Expected outcomes:**

- More effective development of students' foundational skills, through improved linkage of K-12 and college/university course content
- Increased appreciation for technical careers, and for their dependence on Mathematics and basic Science
- Establishment of a mechanism for statewide faculty consultation on transferable General Education

**Total budget request for biennium: \$1,758,000**

**3. Increasing retention and degree completion**

**Expected outcomes:**

- Improved retention from freshman to sophomore year
- Improved retention to graduation for transfer students
- Improved graduation rates for all students

**Budget request for biennium: \$2,000,000**

**4. Extending access to higher education: The Virtual University Center for Rural Oregonians**

**Expected outcomes:**

- Increased accessibility to bachelor's degree completion programs for adult learners at community college partner sites.
- Seamless admission, registration, financial aid packaging, and matriculation for students negotiating the challenge of enrollment at partner sites with distinctive administrative procedures.
- Sustainable business plans for operations beyond the period of the pilot.
- Programmatic collaboration between partner community colleges and the university faculty and administration.

**Total budget request for biennium: \$2,750,560**

## Initiatives in Detail

### 1. Preparing teachers to better meet Oregon's K-12 educational needs

**Total budget request for biennium: \$4,000,000**

Highly qualified Math and Science teachers have been in short supply in Oregon, and the nation, for more than two decades. The state's push to strengthen Math and Science education will be impossible without an increase in the number of these essential educators. In addition, changes in Oregon demographics forecast a growing need for teachers who can communicate in both English and another language. Therefore, one goal of this initiative is to enhance the capacity of teacher education units throughout the state to prepare excellent Math and Science teachers at the middle and high school levels, and to strengthen the preparation of elementary teachers in Math and Science.

Middle and secondary-level teachers must have a strong grasp of content that enables them to respond effectively and creatively to state standards in Math and Science. Equally important are elementary-level teachers who can convey the appeal of these subjects because they understand and appreciate them themselves. Much of the effort will be directed at improving the education of pre-service teachers, but professional development opportunities for practicing teachers are essential, too, and are included in all of the projects.

Another key goal of the initiative is to enable Science/Math teachers, as well as teachers of other subjects, to foster success for students who are English language learners (ELL). The need for such bilingual teachers is particularly critical in the Portland area. In the Woodburn School District, for example, ~68% of the K-8 students are ELL. In the Reynolds School District, the ELL population has quadrupled in the last decade.

#### a. **University-community college collaborative initiatives**

**(\$1,000,000 of total budget request)**

- **Education Pathways for Teachers** Oregon's teacher preparation is done through 4-year undergraduate programs and post-graduate licensure and master's work. Public and private universities and colleges contribute equally to the pool of new Oregon teachers, and collaboration among these institutions is both active and fruitful. Community colleges play an important role in preparing students for potential entry into teacher education programs in the 4-year schools. This is done through high quality General Education, introductory Education courses and *practica*, and lower-division coursework in the subjects students anticipate as their majors. In addition, many students are inspired to become teachers through their community college preparation as instructional assistants. The Education Pathways for Teachers project will increase the effectiveness with which 2-year and 4-year institutions, both public and private, work together to educate teachers. It will
  - enhance early advising and recruitment of excellent students as prospective teachers,

- ensure that these students select General Education coursework that effectively prepares them for licensure exams,
  - introduce these prospective teachers to the profession *via* core education courses that share goals and expectations of student performance, even though they may vary in design and delivery.
- **Partnerships for Bilingual Teaching** This initiative builds on the collaborative Bilingual Teacher Pathway (BTP) program that includes PSU, Portland-area community colleges, and local school districts. It is designed as a career ladder to respond to the critical shortage of bilingual/ESL teachers in the Portland area. Students who enter the program are already bilingual instructional assistants, and BTP prepares them for licensure as highly qualified classroom teachers with a Bilingual/ESL Endorsement. Among the BTP students are immigrants who were highly qualified educators in their own countries. This initiative will
- continue the Bilingual Teacher Pathway when its current Federal support ends in August, 2007.
  - create a new Math and Science emphasis in the BTP through a partnership with the PSU-Beaverton School District Center for Teaching and Learning (CTL). Teacher candidates who are bilingual and/or bicultural, and who also have a background in Math or Science, will be recruited into the BTP. In addition, through the CTL, practicing Math and Science teachers will be invited to strengthen their ability to communicate with ELL.

## **b. University initiatives**

### **(\$3,000,000 of total budget request)**

OUS institutions will also respond to Oregon's need for teachers with particular skills through their teacher education programs, expertise in bilingual teaching, and Math/Science specialization

**Eastern Oregon University: More teachers for rural Oregon.** EOU will enhance opportunities for pre-service and in-service teachers to earn endorsements in Science, Math, and ESL -- areas that are in particularly short supply in rural schools. Tuition incentives will be made available to undergraduate Math and Science students who make a commitment to teaching.

**Oregon State University: From Science and Math to ESL.** Building on the successful Education Double Degree, as well as the established Masters' Degree in Science and Math Education, this program will give practicing Math and Science teachers the tools to reach more of Oregon's diverse student population. Specially-designed classes will create a pathway to endorsements in ESL and Bilingual Education.

**Southern Oregon University: ESL/Bilingual endorsements.** Building on established successful programs, SOU will provide opportunities for both pre-service and in-service teachers to gain skills in working with ELL. All participants will complete twelve quarter hours of the SOU ESL/Bilingual endorsement program.

**University of Oregon: Academic partnerships to enhance Math and Science education** . Building on the strengths of established UO faculty in Math and the Sciences, as well as new Education faculty with expertise in Math and Science education, the UO College of Education is developing a new teacher preparation program that will emphasize Math, Science, and effective instruction of ELL. Students who are completing undergraduate degrees in Math and Science will be recruited into the program to complete Master's degrees, with licensure, in their respective content areas. Tuition incentives will be offered to undergraduates who pursue licensure or endorsements in Math and Science.

**Western Oregon University: Teacher Exchange** The WOU Teacher Exchange will help prospective and current teachers incorporate language teaching methodology to assist ELL students. This collaborative project among WOU, The Teaching Research Institute (TRI), and UO will create teams of mentor teachers, Liberal Arts and Education faculty, and TRI staff, to better prepare students for the final phase of their student teaching by

- incorporating an ELL perspective into the presentation of concepts in Math and Science;
- learning from the classroom work of other teachers, through reflection and analysis of videotaped lessons (using StudioCode software);
- documenting the effect of lesson changes on student learning.

**Oregon Institute of Technology** Although OIT does not offer a teacher education program, its strength in Math and Science is an important asset. OIT undergraduates majoring in Math or Science will be actively recruited as future teachers. The delineation of Pathways for prospective teachers, described above, will help with recruitment and advising, and will allow OIT to realize its potential to contribute to a highly qualified teacher workforce.

## **2. Promoting college readiness in Literacy, Writing, Mathematics and Science**

**Total budget request for biennium: \$1,758,000**

Successful transitions from high school to college, and from 2-year college to 4-year institution, require coordinated instruction that spans grade levels and reaches across educational sectors. Unfortunately, because of the insulating effect of separate administrative structures, instructors in different sectors often operate without knowing, except in broad outline, the content of courses that precede or follow their own. Likewise, there is no systematic way to verify the similarity of courses whose outcomes are intended to be the same. As a result, serious instructional gaps can develop – gaps that interrupt students' intellectual development and promote a sense of futility and defeat. This proposal will create a mechanism for detecting and eliminating these destructive gaps through regular and direct communication among faculty teaching at two critical interfaces: high school to college/university and 2-year college to 4-year college/university. In addition, it will leverage the expertise of professional practitioners in the Sciences, Math and Engineering to stimulate interest in these areas and improve educational practices within them.

This proposal will bring high school, community college, and university faculty together to examine what they teach, particularly in Mathematics, Writing and Science, and how they determine what students have mastered. In addition, these faculty will consider the levels of literacy that are required as students take on increasingly challenging coursework. It will be important to look back to even earlier educational stages to insure that primary/elementary-level literacy is further developed in the content areas that students encounter later on. The re-evaluation of curricula and proficiencies that is currently underway in the Oregon Department of Education (ODE) will play a large part in shaping the collaborative work. For example, the choice of specific projects to begin with will be guided by recommendations from the Board of Education (expected Fall 2006 and ODE's implementation plan).

The proposal will further the joint work that is already underway among representatives of K12, community colleges, universities, non-profit organizations, and industry to increase coordination among these sectors on the development and delivery of experiences that increase students' interest and understanding in science, technology, engineering and mathematics (STEM) subjects. This effort also seeks to enhance alignment of course outcomes and pre-requisites and to increase the diversity and retention of students pursuing college majors in these subjects.

The projects described below are intended to establish a new collaborative structure that will persist and expand to other subjects. The projects are deliberately limited in scope so as to make them practical as a starting point, but we expect them to catalyze systemic change.

High school, community college and university faculty will come together to

**A. align the content and level of Mathematics, Science and Writing courses that are at the high school/college interface**  
(**\$412,000 of total budget request**)

**B. enhance the pipeline for future engineers and applied scientists**  
(**\$1,100,000 of total budget request**)

**C. apply the new outcomes framework to determine the transferability of General Education courses at the college/university interface.**  
(**\$246,000 of total budget request**)

**Project A. Alignment of Course Content** builds on the earlier success of statewide groups in Writing (OWEAC), Mathematics (OMEC), and Computer Science. The project has two specific goals:

- Insure that college-level courses that are taught in all three sectors (introductory Writing and beginning Calculus, for example) introduce all students to the same concepts within a subject, and do so at the same level of detail and sophistication.
- Examine the courses that immediately precede college-level work (courses

typically taken by high school juniors and seniors) to verify that their content will position students to succeed in the coursework that follows. The focus on Mathematics will support the review and revision of K-12 Mathematics Grade-Level Standards that began in November 2005 and will be finalized in April, 2007.

**Project B. Enhancing the pipeline of future engineers and applied scientists (OPAS Initiative)** will continue the collaboration of educators and representatives from industry and non-profit organizations on the OPAS (Oregon Pre-engineering and Apply Sciences) initiative. The goal is to respond to Oregon's need for engineers and scientists by improving the quality of students' experiences in these areas from the earliest stages. The approach is closely related to that in other projects described in this proposal (especially, Project A above) and there are many opportunities for synergy. Deliberate overlap of some of the personnel engaged in different projects makes it likely that these opportunities will be realized.

OPAS was launched at a statewide summit in September 2005 and is being carried forward *via* competitive grants to public universities, private colleges and universities, community colleges, school districts, and non-profit organizations. The results of funded projects will be widely disseminated to inform future efforts. Twelve projects, out of a total of 31, were funded in 2006 (see <http://www.oregonetic.org/05-07/05-07PreCollegeAwards.pdf>) and new proposals for the 2007-09 biennium will be solicited in the following areas of OPAS emphasis:

- **Standards & Curricula:** Enhance K-20 Science, Technology, Engineering & Mathematics (STEM) standards and curricula. Provide all students engaging experiences that
  - give insight into the relevance of these subjects to solving problems in the real world
  - develop research and problem solving skills necessary in college and the workplace
  - ensure literacy in Science and Technology
- **Diversity:** Make these opportunities available to students regardless of gender, race, or socioeconomic background, with specific focus on under-represented populations.
- **Alignment:** Support policies and practices throughout the educational system that increase the consistency between standards and assessment at one level and the prerequisites for the next level.
- **Pathways:** Create a customizable framework for career and degree pathways in applied Science and Engineering.
- **Professional Development:** Enhance professional development programs that allow K12 and college faculty to more effectively deliver STEM curricula.
- **Marketing and Outreach:** Use marketing and outreach efforts to assure that all students, parents and school personnel understand the educational and career opportunities available in STEM.

**Project C. Application of the New Outcomes Framework** puts the outcomes-based framework for General Education, called for in 2005 by Senate Bill 342, into action. The drafting of this framework, and its consideration by the full faculty at each community college and public university, will likely be completed in the current biennium (2005-07). Its successful application, however, will require regular and continuing communication among faculty in each of the General Education disciplines. Meetings of the community college, OUS, and private institution faculty, within each area, will allow course transferability decisions to be based on the new General Education outcomes framework. This new decision-making process will

- Insure that course equivalencies on paper correspond to equivalent educational experiences for students,
- create the means for continuous improvement of General Education throughout the state

### **3. Increasing retention and degree completion**

**Total budget request for biennium: \$2,000,000**

All members of the Oregon University System have an opportunity to improve the rate of graduation of entering students through implementation or enhanced use of established methods of retaining students at all stages in their programs. This initiative would fund activities on all campuses of the system in a pilot program in the 2007-09 biennium. A suite of methods would be employed to retain students to graduation, improving the success of Oregonians. Outcomes of the work would be documented and would guide future allocation of resources to improve productivity of the System.

There are a number of methods that have been established to improve retention rates of students and their graduation success. These include summer bridge programs, new student cohort programs, learning and living communities, enhanced academic and career advising, and mentoring by upper division students, to name a few. However, the success of these methods depends on the specific academic environment, and the characteristics of the student group engaged as well as other factors. Methods that may be successful for the motivated first-time freshman with high academic aspirations may work poorly for the professional students seeking professional advancement or the community college graduate entering the university environment. Our universities have such a mix of student populations and missions that a single method would not serve us well.

The unique character of each university in the Oregon University System argues for flexibility in implementing processes or enhancing existing activities that have been established to work well in other environments with other student populations. Each university will gage the impact of various techniques and implement process and procedure most likely to assure success in their environment. Each university will choose appropriate

metrics and report their performance against expected outcomes. Although each campus may have unique metrics, there may be some common metrics selected for comparison of performance across the system.

**Expected Outcomes:**

- Improved retention from freshman to sophomore year
- Improved retention to graduation for transferring students
- Improved graduation rates of all students

**Performance Measures:**

- Six-year graduation rate of first time freshman
- Rate of retention of freshman into sophomore year
- Rate of retention of transferring students into subsequent year
- Four-year graduation rate of transferring students

**4. Extending access to higher education: The Virtual University Center for Rural Oregonians**

**Total budget request for biennium: \$2,750,560**

The Virtual University Center is a collaborative effort between Eastern Oregon University and its community college partners. It will increase the number of rural Oregon students able to access and succeed in distance learning programs, thereby increasing the college-going rates and degree attainment rates for this segment of Oregonians. Eastern Oregon University (EOU) will lead a pilot project to expand capacity and coordination of distance learning programs by

- Linking online degrees and degree completion programs offered by EOU and other OUS institutions with the community college online network of course, certificate, and degree programs, and with the Virtual high school initiative.
- Expanding its ability to offer cohort, and 2+2 (2 years in community college, 2 years at a university) programs for bachelor's degree completion in online and hybrid formats readily accessible for adult learners at community college partner sites, along the southern Oregon coast, in eastern Oregon, north central Oregon, and the mid-Willamette Valley.
- Complementing learning options for distance education students with key student support services, including online and on-site advising, tutoring, and cohort support.

### Budget Detail

**1. Preparing pre-service and in-service teachers to better meet Oregon's K-12 educational needs**

- **OUS and community college collaborative contributions**
  - **Education Pathways for Teachers**
  - **Partnerships for Bilingual Teaching**

	<b>Recurring Costs</b>	
	<b>Year One</b>	<b>Year Two</b>
Salary	\$179,950	\$185,349
OPE	\$77,295	\$79,614
S&S (inc. tuition assistance)	\$240,755	\$233,037
<b>Total</b>	<b>\$498,000</b>	<b>\$498,000</b>
	<b>One-Time Costs</b>	
	<b>Year One</b>	<b>Year Two</b>
Technology Expenses	\$2,000	\$2,000
<b>Total</b>	<b>\$2,000</b>	<b>\$2,000</b>
<hr/>		
<b>GRAND TOTAL</b>	<b>\$500,000</b>	<b>\$500,000</b>

- **OUS Contributions**

	<b>Recurring Costs</b>	
	<b>Year One</b>	<b>Year Two</b>
Salaries	\$368,136	\$384,169
OPE	\$167,280	\$171,527
S&S (inc. tuition assistance)	\$964,584	\$944,304
<b>GRAND TOTAL</b>	<b>\$1,500,000</b>	<b>\$1,500,000</b>

**2. Promoting college readiness in Literacy, Writing, Mathematics and Science**

○ **Bringing high school, college and university faculty together**

(This is a combined budget for Projects A and C. Individual project support is indicated by letter. Total for Project A = \$412,000; total for Project C = \$246,000)

	<b>Recurring Costs</b>	
	<b>Year One</b>	<b>Year Two</b>
Salaries (.5A, .5 C)	\$75,250	\$78,750
OPE (.5A, .5C)	\$42,500	\$43,750
Cross-sector Faculty Conference (C)	\$15,000	\$15,000
Faculty Travel to Cross-sector meetings (.5A, .5C)	\$63,000	\$42,000
Food & Lodging for events & meetings (.5A, .5C)	\$39,600	\$28,650
Stipends & Substitutes for HS faculty (A)	\$94,500	\$63,000
Standards & assessment standards (A)	\$10,000	\$10,000
Printing, publications, supplies (.75A, .25C)	\$16,000	\$21,000
<hr/>		
<b>GRAND TOTAL</b>	<b>\$355,850</b>	<b>\$302,150</b>

○ **Enhancing the pipeline of future engineers and applied scientists (OPAS)**

	<b>Recurring Costs</b>	
	<b>Year One</b>	<b>Year Two</b>
Salary	\$31,500	\$34,000
OPE	\$14,500	\$15,000
S&S (1)	\$401,000	\$401,500
Technology Expenses	\$250	\$250
<b>Total</b>	<b>\$447,250</b>	<b>\$450,750</b>

	<b>One-Time Costs</b>	
	<b>Year One</b>	<b>Year Two</b>
S&S (2)	\$100,000	\$100,000
Technology Expenses	\$1,000	\$1,000
<b>Total</b>	<b>\$101,000</b>	<b>\$101,000</b>
<b>GRAND TOTAL</b>	<b>\$548,250</b>	<b>\$551,750</b>

Notes:

- (1) \$400,000 per year to be awarded as grants after a competitive proposal process.
- (2) \$100,000 per year to be awarded as grants after a competitive proposal process.

**3. Increasing retention and degree completion**

Funding for the biennium will be \$2,000,000. The funds will be allocated to campuses based on their enrollment at the end of the fourth week of Fall term.

**4. Extending access to higher education: The Virtual University Center for Rural Oregonians**

**Recurring Costs**

	Year One	Year Two
Salary	61,000 Program Coordinator 1.0 FTE 195,000 5 Program advisors 1/site 5.0 FTE 244,000 Student Services, registration 5.0 FTE	61,000 Program Coordinator 1.0 FTE 195,000 5 Program advisors 1/site 5.0 FTE 244,000 Student Services, registration 5.0 FTE
Total Salary	500,000	500,000
OPE	158,400	158,400
S&S	75,000 5 sites, office support and travel	75,000 5 sites, office support and travel
Capital Outlay	0	0
Technology Expenses		
Total	733,400	733,400

**Non-recurring Costs**

Salary	142,000 Hybrid course development stipends 145,000 On site course development 120,000 Course delivery salary	142,000 Hybrid course development stipends 145,000 On site course development 80,000 Course delivery salary
OPE	62,880	53,280
S&S	39,300	33,300
Capital Outlay		
Technology Expenses	375,000 Software development for data exchange	0
Total	884,180	453,580
<b>Grand Total</b>	<b>1,617,580</b>	<b>1,186,980</b>

**GRAND TOTAL**

**\$2,750,560**