



# OPAS Steering Committee

## Summary of ETIC/OPAS Pre-College Funding 2005-07 & 2007-09

April 29, 2008

### Overview

The Oregon Pre-Engineering and Applied Sciences Strategic Planning Summit & the Initiative that grew from that summit was seeded in part with ETIC funds early in the 2005 – 2007 biennium. ETIC Funds allocated to pre-college programs during and since that time:

- 2005 – 2007 Biennium:
  - ETIC Planning Money – for the summit and staff support: \$[ ]
  - ETIC Pre-College Collaborative allocation to university programs: \$571 K
  - ETIC RFP in support of OPAS Goals: \$754 K
- 2007 – 2009 Biennium:
  - OPAS Initiative -- \$
    - Pre-College Campus Funding Solicitation -- \$750 K
    - OPAS RFP Grants -- \$390 K

Details are given below.

**2005 – 07 “Pre-College Collaborative”** allocations - \$571, 184 – these were not identified with OPAS, but target the same audience and goals and have historically been funded through the campus allocations from ETIC. In 2007 – 09, the program was reworked into a campus-only competitive process linked to OPAS and OPAS criteria. Results were aggregated for ETIC.

Institution/ PI	Program/ Proposal Title	Comments/ Results
OIT Gayle Yamasaki	Pre-college and Sponsored Programs  Summer camps and college visit events for middle and high schoolers.	
OSU Roger Rennekamp	4H TechWizards  Computer labs, near-peer mentoring	
PSU Joyce Cresswell	Saturday Academy ASE  Apprenticeships in Science and Engineering, an 8 week summer program for high-achieving high school students with a mini-conference and reflection/ presentation.	Saturday Academy has since evolved into a 501(c)3 separate from PSU
<b>Total: \$571,184</b>  <b>Aggregate of all programs.</b>		<b>Number of Students: 23,220</b> <ul style="list-style-type: none"> <li>• 16% growth 05-06 to 06-07</li> </ul> <b>Contact Hours: 459,025</b> <ul style="list-style-type: none"> <li>• 87% increase 05-06 to 06-07</li> </ul> <b>Cost per student: \$25</b> <b>Cost per hour: \$1.24</b> <b>Counties served 05-06: 31</b>

**2005 – 07 ETIC/ OPAS RFP** awards - \$754, 016 – competitive process open to educational entities and non-profits. An analysis of final reports is planned.

Institution/ Award	Program/ Proposal Title & Description	Comments/ Results
Beaverton School District/ Aloha High School \$70,157	Science Technology Engineering and Math (STEM) Academy using Techworld Curriculum/ Equipment	Implementation delay due to vendor issues; Awaiting final metrics.
Oregon Institute of Technology \$99,765	Pre-Engineering Success through Project Lead The Way  Subsidize teacher training and equipment costs to begin implementation of PLTW programs in local high schools	Grant reconfigured and coupled with ODE grant so that more teachers (35) than originally planned could be trained and given equipment.
OMSI \$24,633	Co-curricular STEM Collaboration  First Network of Informal STEM educators conference	Effort did not find a champion with bandwidth to sustain and grow the collaboration; listserv still somewhat in use
Oregon State University College of Engineering \$13,200	Early Exposure of K12 Students in Science and Engineering  Funded some summer outreach programs with good track records but no sustaining funding	
Oregon State University College of Engineering \$36,450	OSU Engineering Ambassadors: Students Educating Students Motivating a Diverse Population to Engineering/Technical Careers  Current OSU engineering students visit classrooms with hands-on activities, college recruiting materials.	Program is anecdotally very successful with a good reputation in the high school community. Could be viewed as a college recruiting program as well as outreach.
Oregon State University Science and Math Investigative Learning Experiences (SMILE) \$93,115	Increasing STEM Career Awareness & Aspirations of Minority, Low Income, First Generation and Rural Students  Engineering Challenge combines with WOU/OSU visit & COE capstone demo project	SMILE is a well-established program which keeps excellent data
Portland Community College \$26,531 (returned \$5,530.75)	Engineering and Technology Outreach Program  Class visits and on-site evening event/dinner open to students and families.	
Portland State University/ Oregon MESA \$61,000	Increasing Engineering and Computer Science graduates Through a Combination of Targeted Marketing and Outreach Efforts and Creative Curriculum Development  Pre-Engineering Family Conference, April 2007	

Institution/ Award	Program/ Proposal Title & Description	Comments/ Results
Software Association of Oregon Foundation (now Techstart Education Foundation) \$47,000	Increase & Diversify Pre-Engineering Education through LEGO Robotics Curriculum  Translate existing materials to Spanish; formalize existing & develop new materials; workshops; archive materials on website; distribute new generation robotics kits to workshop attendees	
South Lane School District \$57,015	Enhance Pre-Engineering Program at Cottage Grove HS and Lincoln Middle School  Amatrol lab improvements and MS robotics clubs	
Tigard-Tualatin School District/ Tualatin High School \$55,250 (returned \$1,420.44)	Enhance Engineering Science Curriculum at Tualatin High School  Curriculum Development for new facility	
University of Oregon Educational Policy Improvement Center (EPIC) \$99,900	Develop a Statewide Roadmap to Student Readiness and Success by Connecting Secondary and Postsecondary Learning  A series of survey instruments administered to secondary and year 1-2 postsecondary instructors; website	
Yamhill-Carlton School District/ Yamhill - Carlton High School \$70,000	Integrated Manufacturing Technology Lab using Amatrol  Lab upgrades; local industry partner ADEC; also planned use for adult education	
<b>Total : \$754,016 awarded \$747,065 spent</b>		

**2007 – 09 ETIC/ OPAS Campus Funding Solicitation** – replaced “Pre-College Collaborative” with a competitive process. Eligibility was limited to OUS campuses but collaboration with non-OUS groups encouraged. These grantees report yearly.

<b>Institution/ Award</b>	<b>Program/ Proposal Title &amp; Description</b>	<b>Comments</b>
OIT \$273,000	<i>Pre-Engineering Success through Project Lead the Way</i>  Classroom teacher stipend, travel, lodging, food for the PLTW Summer Training Institute for 44 teachers; associated equipment, supplies, computer software and hardware provided.	Continuation/expansion of program under 05-07 grant.
OSU \$251,000	<i>4-H Tech Wizards Program Replication</i>  Expand to new rural areas with OST club model with near-peer mentoring, robotics clubs, podcasting and web tools	Expansion of programs funded under previous ETIC allocations.
OSU \$116,000	<i>Career-Linking in Rural Middle Schools</i>  SMILE program enhancements under the guidance of a nationally recognized expert in student efficacy issues	New elements for SMILE, which has previous and current ETIC/OPAS grants.
PSU \$110,000	<i>Creating the Pre-Engineering Pipeline for Diverse Students</i>  MESA program enhancements to support engineering and career awareness; program expansion	Parts are a continuation/ enhancement of 05-07 grant.
<b>Total: \$750,000</b>		

**2007 – 09 ETIC/ OPAS RFP Grant Awards** – \$390,000 – competitive process open to educational entities and non-profits. Selection based on criteria set in part by OPAS Workgroups. These grantees report progress quarterly. A summary of those progress reports is in progress.

Institution/ Award	Program/ Proposal Title & Description	Comments
Beaverton School District/ Health and Science High School \$74,000	<p><i>Leading the Way at HS2 for Pre-Engineering Students</i></p> <p>Adds Engineering and Design Academy and provides teacher training, equipment, and college-preparatory curriculum, ensuring rigorous student engagement throughout high school.</p>	New magnet academy with a high percentage of underrepresented minority students. PLTW adds an engineering pathway to the schools Health Science pathway.
Oregon State University Science and Math Investigative Learning Experiences (SMILE) \$73,500	<p><i>Engineering the Future: Youth Engagement in STEM</i></p> <p>Bring engineering learning and career activities to ~260 middle school youth, their families, and the classroom teachers who bring engineering learning and serve as advisors for afterschool science and math clubs. Offers sustained professional development for 26 middle school teachers; on-campus challenge event for students and community-based programs for families.</p>	Continuation/enhancement of 05-07 grant.
Portland Community College \$32,640	<p><i>Manufacturing Road Trip</i></p> <p>Portland and Mt. Hood Community Colleges and the Manufacturing 21 Coalition, will host “Road Trips” for high school students to manufacturing cluster companies. Intended to motivate students and show career pathways so that more students successfully transition from education institutions to the workforce. The road trips are also designed to educate teachers and counselors so that they can support student success in STEM related career pathways.</p>	<p>Based on a program model at Clackamas CC partnering with Manufacturing 21; this implementation focuses on student rather than counselor participation.</p> <p>There was an 05-07 ETIC grant to PCC funding a different outreach model directly to high school classrooms.</p>

<p>Redmond School District/ Redmond High School \$48,683</p>	<p><i>Students Pursuing a Career in Engineering (SPaCE) Project</i></p> <p>Expand the Redmond High School PLTW-based Engineering Academy with courses in aerospace, biotechnical, and civil engineering and architecture. Create a middle school feeder program using PLTW's Gateway To Technology®. Fund professional development, equipment, and program recruitment.</p>	<p>RHS has six Career Academies on campus.</p>
<p>Salem-Keizer School District \$95,000</p>	<p><i>Keizer Engineering and Applied Science Pathway</i></p> <p>Create an integrated pre-engineering and applied science pathway, grades 6 through high school, connecting with Oregon universities and community colleges. Uses Project Lead the Way, a nationally recognized STEM program for curriculum and teacher training. Recruitment activities are designed to draw on underrepresented populations.</p>	<p>Primarily McNary High School; other Salem-Keizer schools currently offer PLTW courses and are working toward certification.</p>
<p>UO-Materials Science Institute \$66,177</p>	<p><i>Motivating Tomorrow's Scientists through Outreach into Oregon's Rural Schools</i></p> <p>Improve the quality of science teaching in Oregon's public K-8 schools and facilitate children's long-term exposure active learning, inquiry-based science in the classroom.: science graduate students provide embedded professional development in physical science to teachers, while providing a scientist-role model to children. Also introduces an excellent curriculum and a model for shared use and refurbishment of these resources (FOSS kits).</p>	<p>Leverages NSF GK-12 grants and experience implementing FOSS kits at ESDs done through previous grants from a variety of sources.</p>
<p><b>Total: \$390,000</b></p>		