



Project Lead The Way in Brief

Prepared by

The Oregon Pre-Engineering and Applied Sciences (OPAS) Initiative

August 5, 2008

Project Lead The Way (PLTW) is driven by a national non-profit organization (www.pltw.org) that provides infrastructure such as curriculum development, assessments, and teacher professional development to create and support science, engineering, and engineering technology education in high schools and middle schools. PLTW formally partners with school districts, secondary institutions and industry to provide ongoing support for PLTW teachers, students, and programs. The Oregon Institute of Technology (OIT - <http://www.oit.edu/programs/met/pltw>) is the state affiliate university for PLTW, providing the Summer Training Institute professional development program for PLTW.

All students can benefit from the academic rigor of PLTW's standards-based curriculum and practice critical and analytical thinking and problem-solving in a project-based, open-ended environment. In most schools, PLTW is part of a Career and Technical Education (CTE) program preparing students for further education and careers. The PLTW program includes keeping students on track for college with four years of math and science.

The Oregon Pre-Engineering and Applied Sciences Initiative (OPAS - <http://opas.ous.edu/>) believes that PLTW, done well, provides a research-based and documented platform to recruit more students to engineering and applied science college programs and careers. It also gives all students a more engaging and relevant context for and a deeper understanding of math, science, technology, and design -- important 21st century skills.

OPAS has coordinated a presentation "Project Lead The Way: Practicing Literacy, Numeracy, and Essential Skills" at the ODE/COSA Superintendent's Summer Institute on Tuesday, August 5 at 10:00 and 1:15 in Room A108. Presenters are:

- **Judith D'Amico, Director for State and Corporate Relations, Western Region, PLTW**
Judith began as a high school educator, going on to develop an innovative high school corporate internship program. She then entered the private sector, serving as VP for Communications for a small business, and through educational outreach efforts, discovered a passion for STEM education. She helped to form the Sacramento Project Lead The Way Regional Consortium before joining Project Lead The Way, Inc.
- **Juanita Clarno, Technology Teacher, Redmond High School, Redmond, Oregon**
Juanita has taken drafting at Clackamas Community College, earned a B.A. in History from the University of Oregon and is currently completing a Master's in Career and Technical Education from Concordia University. She worked in the drafting industry for two years before beginning her teaching career at RHS, where she teaches Technology and Computer Aided Drafting courses. A key member of the Redmond High School Engineering

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Academy, her continuing work in the drafting industry during summer break helps bring new industry standards and techniques to her students. Juanita was trained in PLTW's Introduction to Engineering Design (IED) at OIT's Summer Training Institute and is now a PLTW Master Teacher at Training Institutes around the country.

- **Peter Schmurr, Technology Teacher, Glencoe High School, Hillsboro, Oregon**
Peter has been teaching math, science and computer programming at Glencoe High School in the Hillsboro School District for 15 years. He has attended three PLTW Summer Training Institutes and has been teaching PLTW courses for the last two years. His 08-09 teaching assignment includes PLTW courses Principles of Engineering, Digital Electronics and Engineering Design and Development.

- Presentation materials will be posted at http://opas.ous.edu/PLTW_Advocacy/PLTW_Literacy.html
 - Rubric for evaluating STEM (Science Technology Engineering Math) Programs, from ASEE (American Society for Engineering Education)
http://opas.ous.edu/PLTW_Advocacy/ASEE_STEM_Program_Rubric_011106.pdf
 - SREB (Southern Regional Education Board) Research Brief on PLTW (Project Lead the Way), September 2007
http://opas.ous.edu/PLTW_Advocacy/SREB_Research_Brief_Sep07.pdf
 - Texas Engineering Academy Slides, including student projects (some resulting in patents) http://opas.ous.edu/PLTW_Advocacy/TX_Engineering_Academy.pdf
 - IED (Introduction to Engineering Design, freshman course) Depth of Knowledge Analysis, March 2008
http://opas.ous.edu/PLTW_Advocacy/IED_Depth_of_Knowledge_Analysis-final_3-08.pdf
 - POE (Principles of Engineering, an applied physics freshman/sophomore course) Student Project Report
http://opas.ous.edu/PLTW_Advocacy/POE_Marble_sorter_Jul08.pdf
 - OIT & PLTW's brief on PLTW and the new Oregon Diploma Requirements; flip side is PLTW and CTE/Perkins
http://opas.ous.edu/PLTW_Advocacy/PLTW_Oregon_new_diploma_Perkins_Jul08.pdf

- The OPAS Initiative maintains a PLTW Advocacy webpage with these and other resources, research reports and presentations at http://opas.ous.edu//PLTW_Advocacy/index.html. Contents are updated semi-regularly. Selected items:
 - CTE students outperform their peers on Oregon benchmarks - http://opas.ous.edu/Committees/Resources/Publications/ODE_OR_CTEataGlance_2006-07.pdf
 - PLTW Courses are already part of an agreement seamlessly linking 9 Oregon community colleges to OIT's Manufacturing Engineering Technology degree – http://opas.ous.edu//Workgroups2007/Pathways/OPAS_Pathways_GoodNews_May07.pdf. PLTW courses also count as college credits for certain fundamentals classes in OIT's Civil, Electrical, and Mechanical Engineering and Electrical Engineering Technology programs.
 - PLTW is piloting a biomedical curriculum - <http://www.pltw.org/curriculum/hs-biomedical-science.html>

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