

REGIONAL RESOURCE CATALOG
Science, Technology,
Engineering and Mathematics
(STEM) Initiatives

A list of active STEM programs serving
Northern Oregon and Southwest Washington

May 2009

STEM Regional Resource Catalog

Overview

This catalog of STEM resources was developed to support a bi-state workforce development effort to encourage youth and dislocated workers to pursue STEM careers. The projects listed in this document represent the array of STEM education, training, and general awareness programs that responded to the project's survey, interviews and request for information. There may be some programs that are not listed because information was not available to project staff. The catalog provides information for two regions in the key areas of:

- General (non-degree) STEM Programs that encourage education and active exploration of STEM careers, including teacher training and professional development.
- Degree programs from various community colleges and universities serving the region.
- Youth Camps, Competitions, Clubs and Internships serving grades 6-12.

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Northern Oregon STEM Initiatives

NORTHERN OREGON

STEM EDUCATION & AWARENESS PROGRAMS

Program Name: 4-H STEM Program

Type of program: Nonprofit

Description: More than 40,000 Oregon youth participate in 4-H science, engineering, and technology projects and programs each year. A current statewide initiative focuses on the developing "pathway" programs activities that provide adequate preparation for post-secondary learning in the sciences. Today, programs emphasizing robotics, GIS/GPS, web design, and environmental monitoring are becoming more and more commonplace. These programs are also effectively reaching traditionally underserved audiences such as Latinos.

Program elements: *Oregon 4-H Tech Wizards:* The Oregon 4-H Tech Wizards program utilizes an after-school mentoring model to help Latino and other underserved youth develop skills in information technology, science, and math. Youth in the program develop a unique mentoring relationship with 4-H mentors who lead field trips, assist with community service projects, and help develop curriculum.

4-H GPS/GIS Technology: 4-H youth are having fun while learning to use GPS/GIS technology. Across Oregon, 4-H faculty, staff, and volunteers use nearly 200 handheld GPS units to teach over 1600 young people annually about GPS/GIS technology.

4-H Totally Tech Camp: The 4-H Totally Tech Camp reached young people from all across Oregon with experiential learning activities focusing on such topics as forensics, electrical engineering, aerospace, video production, and GPS/GIS technologies.

4-H LEGO Robotics: Oregon 4-H has developed partnerships with the Oregon Robotics Tournament and Outreach Program (ORTOP) and the FIRST LEGO League to strengthen robotics programming within 4-H.

Counties served: Washington County & throughout Oregon

Fields of study: Introduction to various STEM fields

Target populations: Underrepresented minorities

Contact information: Roger Rennekamp

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Program Name: **Apprenticeships in Science and Engineering ASE**

Type of program: Other Educational Nonprofit

Description: Learn first-hand about science or engineering as a career. Students assist scientists and engineers in a variety of fields for eight weeks during the summer. Students are able to help with real-world projects while being an integral member of a professional team. The benefits are many: you gain valuable pre-professional experience, you get to test out a particular career first-hand and see if it's what you want to pursue, and you have the satisfaction and confidence from having completed one or more projects or contributing meaningful work to a larger, on-going project.

Counties served: All northern Oregon counties

Fields of study: A general introduction to various STEM fields including nanotech, sustainable, nuclear engineering, etc.

Target populations: Underrepresented minorities in the sciences

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Program Name: **Beaverton School District and Portland State University**

Type of program: K-12 School or Education District Higher Education Institution (Community College/University)

Description: The Beaverton and Hillsboro School Districts have a partnership with Portland State University to provide staff development for our K-12 teachers in STEM education.

Program elements: **Connect2SCIENCE:** Science Methods for Elementary School Teachers
Oregon Teacher Scholars Program: Science Education Research Program for K-12 Teachers

Counties served: Washington County; Hillsboro and Beaverton School Districts

Fields of study: A general introduction to various STEM fields

Contact information: Melissa Potter
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Program Name:	Business Education Compact
Type of program:	Other Educational Nonprofit
Description:	<u>National Engineers Month</u>. Each February, the BEC raises student awareness of the opportunities and rewards of being an engineer. As hundreds of professional engineers from diverse disciplines pour into elementary, middle and high school classrooms, tens of thousands of students are reached and excitement for math and science is generated. In 2009, 400 engineers visited 975 classrooms, reaching 26,800 students across Oregon. <u>Techno Science Supersite</u>. Learning in science, math and technology is promoted through this Intel-sponsored website where students, teachers and parents can explore a world of opportunities. From camps and classes to clubs, contests, fairs and scholarships, the Techno Science Supersite identifies a vast array of resources available across Oregon. <u>Student internships</u>. An important means to connect classroom and workplace, the BEC offers year-round, paid internships. High school students are able to “sample” potential career fields while gaining a deeper understanding of how classroom learning is relevant to their future. Such career related learning experiences are an essential element in Oregon’s high school reform standards. College students, on the other hand, meet their learning objectives with practical experience and advanced training in their field of study. <u>Educator internships</u>. This flagship program offers paid, summer internships to K-20 educators. These practical, real-world experiences build skills that enrich the classroom experience for all students. As important, they inform educators on what business needs and expects of future employees.
Program elements:	National Engineers Month Techno Science Supersite Student internships Educator internships
Counties served:	Oregon—all counties; SW Washington
Fields of study:	A general introduction to various STEM fields
Target populations:	Special emphasis on minority, females and underserved populations
Contact information:	Greg Kulander 503.646.0242 x23 gkulander@becpdx.org www.becpdx.org

Program Name: **CAPITAL Center Technology Institute**

Type of program: K-12 School or Education District

Description: CAPITAL Center High School Technology Institute programs are designed to give students a solid background in the academic area of study, career exploration, employability skills, job shadows and structured work experiences. Students attend classes as part of the regular classroom program at their home high school. The use of technology is integrated into the course work. Some instruction may be delivered through distance learning. These programs can lead to post-secondary educational opportunities at community college and four-year institutions, as well as career opportunities in industry. Students can earn up to 2 high school credits in each CAPITAL Center course. Students may earn college credits and satisfy academic and high school diploma requirements.

Program elements: Student Internships

Counties served: Washington County School Districts

Fields of study: Engineering, Healthcare, Mathematics, Science, Teaching, Law Enforcement, Auto Tech, Fire Science, Animation

Target populations: English Language Learners (ELL), talented and gifted students

Contact information: Pete Craemer, Principal
503-614-1740
pcraemer@nwresd.k12.or.us
www.nwresd.k12.or.us/capital

Program Name: **Cisco Networking Academy: Oregon**

Description: Networking Academy is a unique public-private partnership between educational institutions, national, state and local government, and community-based organizations, currently educating more than 128,000 students in over 2,200 U.S. educational institutions. As an education solution, Networking Academy encourages seamless educational pathways between secondary and postsecondary institutions by using curricula aligned to national and state education standards for math, language arts, and technology and industry certifications. These courses also help students prepare to pursue degrees related to science, technology, engineering, and math (STEM). Networking Academy courses provide instructors with tools to help students make the connection between their educational experience and their careers. In the United States, academies are located in high schools, technical schools, colleges, universities, and community-based organizations.

- Academy Capital Center High School (Beaverton)
- Benson Polytechnic High School (Portland)
- De La Salle Catholic High School (Portland)
- Liberty High School (Hillsboro)

North Salem High School (Salem)
The Center For Advanced Learning (Gresham)
Yamhill-Carlton High School (Yamhill)
Chemeketa Community College - Regional (Salem)
Heald College Portland (Portland)
Mt. Hood Community College (Gresham)
Portland Community College (Portland)

Fields of study: Engineering, Information Technology, Computer Science, Mathematics,

Contact information: Nancy Bischoff
nbischof@cisco.com
[http://www.cisco.com/web/learning/netacad/career_connection/promote
IT/resourcecenter/docs/P51-FY09-Oregon.pdf](http://www.cisco.com/web/learning/netacad/career_connection/promote_IT/resourcecenter/docs/P51-FY09-Oregon.pdf)

Program Name: **Clackamas Career and Technical Education Consortium
(C-TEC)**

Type of program: K-12 School or Education District

Description: C-TEC is a consortium of secondary schools, Clackamas ESD, and Clackamas Community College that provides leadership and support to promote high quality Career and Technical Education Programs of Study in Clackamas County. Career areas include, but are not limited to, the following STEM fields: Manufacturing, Computer Science, Engineering, Electronics, Agricultural Sciences, and Health Sciences. Activities of the consortium include curriculum development, resource sharing, articulation between secondary and post-secondary schools, career pathway development, etc.

Program elements: Renewable Energy Career Pathway Development
Pre-Engineering Career Pathway Development
Career Road Trip and Renewable Energy Road Trip

Counties served: Clackamas County

Fields of study: Manufacturing, Computer Science, Engineering, Electronics, Agricultural Sciences, and Health Sciences

Contact information: Megan Helzerman
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www.clackamascareers.com

Program Name:	Enterprise for Employment and Education-Consortia Initiatives
Type of program:	Workforce Investment Board
Description:	We staff four groups of advanced manufacturing industry groups and as a result of our work, research, procure, and provide training in skill areas identified by those groups. The majority of training we provide is for incumbent workforce. However, through the consortia/cluster initiatives, there are programs developed to build the pipeline such as the Metals Industry Entry Level Credential. The industries range from bioscience, metals, plastics, aerospace, food manufacturing, secondary woods manufacturing, and others. We represent the Mid-Willamette High Performance Consortium, the Mid-Willamette Food Processors Consortium, the Mid-Willamette Metals Consortium, the Mid-Willamette Secondary Woods Consortium and the Willamette Valley Chapter of the Oregon Bioscience Association (not direct staffing to this group)
Program elements:	Metals Entry Level Credential Program Career Related Learning Experiences through our BizConnect efforts Industry Incumbent Worker Training in STEM fields Career Day Presentations/Job Fairs/Presentations by Industry Industry Tours for youth and others
Counties served:	Marion, Polk, and Yamhill We partner with local K-12 organizations, the Mid-Willamette Education Consortium, WorkSource Oregon, The Youth Opportunity System, Chemeketa Community College and others.
Fields of study:	A general introduction to various STEM fields, Engineering, Healthcare, Mathematics, Science, Teaching Advanced Manufacturing
Target populations:	Disadvantaged youth, minority, low-income and underemployed adult workforce
Contact information:	Karen Litvin 503-581-4272 klitvin@workforce-solutions.net www.workforce-solutions.net

Program Name:	ETIC
Type of program:	Public-Private Partnership Council, support by the Oregon University System
Description:	ETIC is a public-private consortium with the goals of doubling the number of engineering degrees in Oregon, creating world-class institutions, and increasing research funding five-fold to provide skilled and "work-ready" graduates for Oregon's industries. ETIC not only works with universities to continually improve and expand degree programs and research efforts, it connects pre-college education and

student interest in STEM careers. It is one of Oregon's key portals to engineering and technology education.

Program elements: **Get Real Career Site** a site with comprehensive information on engineering or computer science careers, schools, and financial aid.
<http://getreal.ous.edu>

The Oregon Pre-Engineering and Applied Sciences (OPAS)
Initiative fosters collaborations and programs that prepare, motivate, and enable the success of a diversity of students in the technical disciplines. OPAS currently provides grant support to a number of pre-engineering programs offered through colleges, universities, K-12 settings, and community-based organizations.
<http://opas.ous.edu/index.htm>

Oregon Game Challenge Project: TechStart, ETIC and the Oregon Computer Science Teachers Association (OCSTA) sponsors this competition that gets students interested in computer science.
<http://techstart.org/ogpc>

Counties served: Programs extend to all northern Oregon counties

Fields of study: Engineering, Computer Science, Information Technology, and related fields

Target populations: All students

Contact information: Bruce Schafer
503-821-1132
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www.oregonetic.org

Program Name: **Health and Science School (HS2)**

Type of program: K-12 School or Education District

Description: Our mission at Health and Science is to prepare students for college success through a highly relevant health and sciences-based educational experience in a small school environment that fosters student identity, commitment, and support. We serve grades six through twelve as a full-time magnet school within the Beaverton School District. The Health and Science School will act as a community access point for health and science education, serving students and families and ensuring the inclusion of the diverse community within the Beaverton School District.

Program elements: Project Lead the Way classes
Summer Bridge Camps for underrepresented students
Recruiting and enrolling underrepresented minority students
MESA (based out of PSU)

Counties served: Washington County; Beaverton School District

Fields of study: General STEM introduction; Health, Sciences,

Target populations: Ethnic and language minority students

Contact information: Steve Day
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http://www.beaverton.k12.or.us/health_and_sciences/

Program Name: **IBM EX.I.T.E. Camps**

Type of program: Corporate Nonprofit

Description: The IGN.I.T.E. (IGNiting Interest in Technology and Engineering) camp is modeled after EX.I.T.E. camps to target underrepresented middle school boys in 2003. In 2005, the focus was expanded to include girls. Today, the global inclusion focus is targeting *girls and boys* from all walks of life. The camp volunteers are mostly from the technical community and DNGs. The I.G.N.I.T.E. camps follow the EX.I.T.E. core processes, STEM focus curriculum to increase awareness and career opportunities, and mentoring.

Counties served: Currently working with Washington County (Beaverton and Hillsboro SD's) Must be close for students to attend, must have teacher to lead e-mentoring program in the fall after camp (www.mentorplace.org) Camp is limited to 25 students

Fields of study: Engineering, Technology, and Computer Science

Target populations: All students

Contact information: Linda Wilson Bauer
(503) 578-3749
liwilson@us.ibm.com

Program Name: **INTEL Foundation**

Type of program: Corporate non-profit

Description: Today's students are tomorrow's innovators. To inspire the next generation of scientists and engineers, Intel encourages students' interest in science and math by sponsoring science competitions, recognizing innovative school science and math programs and developing rich, interactive learning experiences.

Program elements: **INTEL Northwest Science Expo** The Intel Northwest Science Expo is the Oregon and Clark County Washington Science Research Competition affiliated with the Intel International Science and Engineering Fair. The Intel NWSE encourages students to learn science, engineering and math by engaging in the activities that characterize these endeavors. The NWSE has been held for 5th through 12th grade students since 1984. The NWSE has grown from about 100 high school students in 1984 to

665 middle and high school students in 2008. Students compete in 17 categories encompassing all the scientific disciplines, engineering, computer science and mathematics.

The Intel International Science and Engineering Fair (Intel ISEF), the world's largest international pre-college science competition, annually provides a forum for more than 1,500 high school students from over 50 countries to showcase their independent research. The Intel ISEF is the premiere science competition in the world exclusively for students in grades 9–12.

Intel Undergraduate Research and Mentoring Program The Maseeh College of Engineering and Computer Science offers undergraduate students paid research opportunities through the Intel Undergraduate Research and Mentoring Program for students that are interested in electrical, mechanical, and computer engineering as well as computer science. The Maseeh College recognizes the importance of mentoring undergraduate students in the areas of cross-disciplinary research, graduate engineering education, and industry partnerships.

Counties served: Open to all Oregon schools

Fields of study: Engineering, Mathematics, Science, Technology

Target populations: Open to all students

Contact information: Morgan Anderson
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morgan.anderson@intel.com
<http://www.intel.com/community/oregon/education.htm>

Program Name: **The Engineering and Aerospace Sciences Academy (EASA), McMinnville School District**

Type of program: K-12 School or Education District Higher Education Institution (Community College/University) Other Educational Nonprofit

Description: The Engineering and Aerospace Sciences Academy (EASA), one of the career pathways of McMinnville High School, is located on the Evergreen Air and Space Museum Campus. EASA offers a fully integrated education heavily focused on math, science, and engineering, dual high school/college credit coursework in partnership with Embry-Riddle Aeronautical University, and industry-based internships. Computer Sciences and Information Technology Career Pathway, located on the high school campus, offers coursework in computer programming, gaming and simulation development, web design, information technology essentials (software and hardware), dual high school/college credit coursework in partnership with Portland Community College, and industry certification.

Program elements: Six Career Pathways
Eighteen Career Strands within the pathways

Dual high school/college credit within each pathway
Industry-based internships
Industry certifications

Counties served: Yamhill County; McMinnville School District

Fields of study: A general introduction to various STEM fields: Science, Engineering, Mathematics, Aeronautics

Target populations: Economically Disadvantaged - 51.6%, Minority, low-income, and rural populations Students of Hispanic Origin - 30%

Contact information: Tony Vicknair
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tvicknair@msd.k12.or.us
<http://www.msd.k12.or.us/>

Program Name: **MECOP/CECOP**

Type of program: Nonprofit

Description: Unique among cooperative programs, the Multiple Engineering Cooperative Program and the Civil Engineering Cooperative Program (MECOP and CECOP) at Oregon State University, Portland State University and Oregon Institute of Technology demonstrates the power of an effective business/education partnership. The multiple Engineering Cooperative Program places student interns into a wide array of STEM fields including manufacturing engineering technology; bioengineering; civil, electrical, environmental, industrial, chemical, mechanical engineering; management information systems; engineering physics; and computer sciences.

Program elements: Internships

Counties served: Students at PSU, OIT, and OSU;

Fields of study: Engineering

Target populations: College-level Engineering Students Meeting MECOP/CECOP requirements

Contact information: Oregon State University
Phone: 541.737.9595
mecop@oregonstate.edu

Portland State University
Maseeh College of Engineering and Computer Science, Suite 100
Phone: 503.725.2212
tcorrigan@pdx.edu

Oregon Institute of Technology
Phone: 541.885.1647
Brian.Moravec@oit.edu
www.mecop.ous.edu

Program Name: **Mid-Willamette Education Consortium**

Type of program: Regional Perkins Consortium

Description: MWEC oversees career and technical education programs at high schools and community colleges in Marion, Polk, and Yamhill counties in Oregon.

Program elements: Teacher training
Teacher licensure
CTE program oversight

Counties served: Marion, Polk, and Yamhill County; We serve all school districts in the region

Fields of study: A general introduction to various STEM fields

Contact information: Jeffrey Nagel
503.399.2339
jnagel3@chemeketa.edu
www.mwec.org

Program Name: **Multnomah Education Service District**

Type of program: K-12 School or Education District

Description: The Department of Instructional Services has approximately 112 employees who provide a myriad of services to teachers, administrators, educational assistants, students, and parents from the 8 school districts in Multnomah County, as well as Clackamas County. Students in MESD's educational programs receive comprehensive educational support, social services, career training, college assistance, environmental education, and special education services within one or more of the following programs/schools: Alpha, Alternative Pathways, Arata Creek, Donald E. Long, Helensview, Migrant Ed, and Outdoor School. These programs emphasize compassion for others, nonviolent ways of settling disputes, resiliency to handle life's challenges, and preparation for college, work, parenthood and civic responsibility. We also provide instruction for students enrolled in regional programs, instructional support for schools, and professional development for educators on a variety of topics.

Program elements: Outdoor School
Detention/Incarcerated Youth Program
Alpha, Helensview and Arata Creek Schools
Curriculum, School Improvement and Instructional Services (professional development and technical assistance)

Counties served: Clackamas and Multnomah

Fields of study: A general introduction to various STEM fields

Target populations: Disadvantaged and at-risk youth, minority, low-income, severe behavior

Contact information: Kelvin Webster
503-257-1696
kwebster@mesd.k12.or.us
www.mesd.k12.or.us

Program Name: **OMSI**

Type of program: Educational Nonprofit

Description: OMSI offers a variety of educational programs, including the largest science outreach education program in the United States. Our traveling programs (i.e., outreach programs) takes innovative science education "on the road" to students, teachers, and the public in five Western states. OMSI also offers professional development workshops for teachers, distance learning programs, and works in partnership with schools and districts throughout Oregon.

Program elements: OMSI professional development workshops combine hands-on activities with plenty of take-back-to-the-classroom content. Graduate credit available for an additional fee through Oregon State University (OSU). Curriculum and distance learning opportunities for teachers also available through OMSI.

Science Camps: OMSI offers overnight Science Camps for ages 7–18 all summer long! OMSI Science Camps offer the perfect combination of science, adventure, activity, and treasured summer-camp traditions. OMSI is accredited through the American Camp Association and offers the most affordable comprehensive science camp experience on the West Coast.

Counties served: Throughout Oregon

Fields of study: A variety of STEM subjects

Contact information: Ray Vandiver
503-797-4540
rvandiver@omsi.edu
www.omsi.edu

Program Name: **Oregon Health Career Center**

Type of program: Other Educational Nonprofit Workforce Agency/Organization

Description: OHCC actively addresses Oregon's healthcare workforce shortages. We build and diversify our state's healthcare workforce through a pipeline of hands-on science, college preparation and health professions programs that prepare children and adults to become the healthcare workers of tomorrow. We also facilitate industry planning and coordination activities to efficiently and effectively define, prepare for and meet future healthcare workforce needs.

Program elements: A.K.A. Science Program
Health Careers College Success Program
N2K Nursing Program
Medical Interpreter/Medical Assistant Program

Counties served: All northern Oregon counties

Fields of study: Healthcare, Science

Target populations: Low-income youth, minority youth, adults

Contact information: Sarah Andersen
503-682-1300
sandersen@ohcc.org
www.ohcc.org

Program Name: **Oregon MESA**

Type of program: Higher Education Institution (Community College/University)

Description: Oregon MESA is a pre-college academic program that makes achievement in STEM (science, technology, engineering and math) fields a reality for more students. Middle and high school MESA students learn by working in teams, conducting scientific research, building hands-on projects and participating in internships. In MESA, students develop the skills, knowledge and opportunities to develop their talents, explore technology-based careers, enter college and compete successfully in the workforce.

Program elements: Teacher training
Family involvement
Competitions
Internships
After school programs

Counties served: Clackamas, Multnomah, Washington counties; Gresham, Portland, Hillsboro, and Beaverton School Districts

Fields of study: A variety of STEM fields

Target populations: disadvantaged youths, minority, low-income, rural populations, first generation college-bound

Contact information: David Coronado
503-725-4665
ormesa@pdx.edu
www.mesa.pdx.edu

Program Name:	Oregon Pre-Engineering & Applied Science Initiative (OPAS)
Type of program:	Education and Outreach Program of ETIC
Description:	The OPAS Mission is to increase the number of work-ready engineers and applied scientists in Oregon through collaborations of education sectors, industry, and government stakeholders that ensure that all K-12 students have access to high quality education and career exploration opportunities that prepare them for postsecondary and workplace opportunities and success. OPAS acts a facilitator and convener of STEM partners and as a portal of information on an array of STEM programs. OPAS seeks to increase the number of students who choose and persist to success in engineering and applied science by identifying and supporting programs that have demonstrated success and are capable of being offered much more broadly by schools statewide.
Program elements:	<i>Motivating Students for STEM careers:</i> Increasing the opportunities for students to encounter STEM professionals outside the classroom, e.g. science fairs, internships, robotic competitions; increasing the presence of STEM professionals in the classroom; and increasing the STEM content and impact of informal educational programs for students and their families. <i>Support for STEM Programs:</i> Developing materials to assist both professionals and volunteers in offering both formal and informal STEM education to students who are under represented in STEM fields; communicating best practices for serving these student populations to a variety of potential partners; and identifying existing organizations with which OPAS might link its efforts. <i>Promotion of Career Pathways:</i> OPAS seeks to create, develop, and maintain engineering and applied science pathways so that more students successfully transition among education institutions and into the workforce. A pathway includes mechanisms for credit articulation and transfer, as well as information about how income and job opportunities develop as students improve their education.
Counties served:	Throughout Oregon
Fields of study:	A variety of STEM fields
Contact information:	Jo Oshiro 503.821.1139 jo_oshiro@ous.edu http://opas.ous.edu

Program Name:	Oregon Robotics Competition
Type of program:	First Pacific Northwest Nonprofit
Description:	<i>FIRST</i> Robotics Competition (FRC) is a unique varsity sport of the mind designed to help high-school-aged young people discover how interesting and rewarding the life of engineers and researchers can be.

The *FIRST* Robotics Competition challenges teams of young people (high school age) and their mentors to solve a common problem in a six-week timeframe using a standard "kit of parts" and a common set of rules. *FIRST* redefines winning for these students because they are rewarded for excellence in design, demonstrated team spirit, gracious professionalism and maturity, and the ability to overcome obstacles. Scoring the most points is a secondary goal. Winning means building partnerships that last. (Also see ORTOP for middle school age and other related competitions)

- Program elements:** The *FIRST* Robotics Competition (FRC) stages short games played by remote-controlled robots. The robots are designed and built in 6 weeks (out of a common set of basic parts) by a team of 10 to 20 high-school-aged young people and a handful of engineers-mentors.
- Counties served:** All northern Oregon counties
- Fields of study:** Engineering, mathematics, technology, and computer sciences
- Target populations:** Open to all high school students
- Contact information:** Deb Mumm-Hill
503-715-6365
dmumhill@usfirst.org
www.pnwfirst.org

-
- Program Name:** **Oregon Robotics Tournament & Outreach Program: ORTOP**
- Type of program:** University sponsored, volunteer effort
- Description:** To open doors to the worlds of science and technology for Oregon's youth, by delivering the FIRST programs to 6- to 18-year-old youngsters, with a focus on reaching those who might not otherwise participate because of their race, gender, or socio-economic status. In addition to FIRST Tech Challenge, ORTOP also implements Jr. FIRST LEGO League and FIRST LEGO League. (Also see Oregon Robotics Competition for high school age competition)
- Program elements:** To accomplish its mission, ORTOP uses three programs developed and distributed by the FIRST, which stands for For Inspiration and Recognition of Science and Technology). These three programs are FIRST LEGO League (6-9 year olds), Junior FIRST LEGO League (9-14 year olds) and FIRST Tech Challenge (13-18 year olds). Students work in teams where they can learn various roles from designers, to programmers, to team leaders. ORTOP is a program of the Oregon University System but is almost entirely volunteer driven.
- Counties served:** All northern Oregon counties
- Fields of study:** Engineering, mathematics, technology, and computer sciences
- Target populations:** Open to all students

Contact information: Cathy Swider
503-821-1136
questions@ortop.org
www.ortop.org

Program Name: **Oregon Zoo Youth Volunteer Program**

Type of program: Other

Description: The Youth Volunteer Program at the Oregon Zoo provides opportunities for high school age volunteers to work with animals and the public on Zoo grounds. Short and long term internships are available in the winter at our Family Farm, and are often done in partnership with schools to provide service learning credit. The summer ZooTeen program engages the teens around the zoo in a variety of activities.

Counties served: All northern Oregon counties

Fields of study: Life, environmental and animal sciences

Target populations: Open to all interested students

Contact information: Youth Volunteer Office
503-220-2449
zooteen@oregonzoo.org
www.oregonzoo.org

Program Name: **PAVTEC**

Type of program: Education Consortium

Description: PAVTEC is a "tech prep" consortium composed of all of the K-12 school districts that are within the Portland Community College district boundary, the college itself, and several other entities. The purpose of PAVTEC is to enhance the access of high school and PCC students to quality professional technical education. This encompasses a broad scope ranging from career development and guidance programs to technical skill development instructional programs. One of the primary functions of PAVTEC is to provide leadership, coordination, and resources for staff development for high school and PCC professional technical instructors and counselors especially related to the connection of high school professional technical programs with PCC programs.

Program elements: PAVTEC coordinates a number of programs and services including the **dual credit** ("articulation") programs for high school students called Professional Technical (PT) and Lower Division Collegiate (LDC).

The PAVTEC **Special Populations Task Force** works with special populations / needs students to develop materials and professional development activities that educators who work with special needs

students can use to assist students in their career development, making transitions to postsecondary education, and/or to the world of work.

PAVTEC sponsor the **Middle School Girls Conference** to introduce the girls to female role models in math, science, and technology, and to provide middle school girls with stimulating and exciting experiences related to math, science and technology.

Counties served: K-12 school districts that are within the Portland Community College district boundary

Fields of study: Engineering, Mathematics, Science, Technology

Target populations: Special needs students, females and other underrepresented groups

Contact information: Bill Manley (PAVTEC)
503-614-7735
bmanley@pcc.edu
www.pcc.edu/pavtec/

Middle School Girls Conference
Michelle Robertson
503-614-7738
mrrobert@pcc.edu

Program Name: **The Pacific Northwest Girls Collaborative Project**

Description: The Pacific Northwest Girls Collaborative Project (PNWGCP) brings together organizations in Idaho, Oregon, and Washington that are committed to informing and motivating girls to pursue careers in science, technology, engineering, and mathematics (STEM).

Program elements: The Pacific Northwest Girls Collaborative, along with the Northwest Regional Educational Laboratory, Institute of Education Sciences, and the Lewis & Clark College Graduate School of Education and Counseling will host a **professional development workshop** on engaging girls in math and science.

Mini-grants are awarded to girl-serving science, technology, engineering, and mathematics (STEM) focused programs to support collaboration, address gaps and overlaps in service, and share promising practices. Mini-grant projects must relate to either informal learning or evaluation and assessment.

Fields of study: A variety of STEM fields

Target populations: Females

Contact information: Karen Peterson
425.368.1028
kpeterson@psctl.org
<http://www.ngcproject.org/northwest/>

Program Name: **Project Lead The Way**

Type of program: Nonprofit

Description: Project Lead The Way (PLTW) is driven by a national non-profit organization that provides infrastructure such as curriculum development, assessments, and teacher professional development to create and support engineering education in high school and middle school. 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. PLTW is currently in 14 Oregon schools.

Program elements: For students interested in engineering, biomechanics, aeronautics, and other applied math and science arenas and Biomedical Sciences.

Fields of study: Engineering, Biomedical, Technology

Contact information: Timothy Brower
541-885-1405
timothy.brower@oit.edu

Program Name: **SEMI High Tech U**

Description: SEMI High Tech U is an industry driven, career exposure program targeting high school sophmores, juniors and seniors that provides hands on activities and lectures in math, science and technology.

Counties served: Multnomah and Washington counties

Fields of study: General introduction to STEM fields

Target populations: "B" /"C" high school students ("average" students with potential), females, diversity reflecting the recruitment area

Contact information: Leslie Tugman
503-788-3158
leslie@tugmangroup.com
www.semi.org/advocacy/hightechu

Program Name: **Oregon Computer Science Teacher Association**

Type of program: Computer science and engineering teacher organization

Description: The Oregon chapter of CSTA co-hosted three Fall SuperQuest conferences. One was held in the Portland area and one in southern

Oregon covering game design/contests and robotics. The third was in Salem covering Gridworld. The Oregon CSTA also offers teacher training.

Program elements: Competitions
Clubs
Job shadows
Workshops

Counties served: Clackamas, Washington; All of Oregon computer science and engineering teacher and some Washington State

Fields of study: Computer science and engineering

Contact information: Terrel Smith
503-825-5559
tsmith@sherwood.k12.or.us
www.sherwood.k12.or.us

Program Name: **Science & Math Investigative Learning Experiences Program (SMILE Program)**

Type of program: Higher Education Institution (Community College/University)

Description: The SMILE Program is a university-school-community partnership offering academic enrichment and college readiness learning opportunities in science and mathematics. SMILE serves students who are historically underrepresented minority, low-income, rural, and first generation college to help the students develop aspirations, motivations, behaviors and preparation to go to college. SMILE experiences emphasis careers in five areas: science, math, engineering, healthcare, and teaching.

Counties served: Marion, Polk Washington, and Yamhill counties; School districts in Dayton, Forest Grove, Willamina, and Woodburn

Fields of study: A general introduction to STEM fields

Target populations: Minority, low-income, and rural populations

Contact information: Eda Davis-Lowe
541 737-2388
eda.davislowe@smile.oregonstate.edu
<http://smile.oregonstate.edu>

Program Name: **Society of Women Engineers: Girls Are Technically Excellent**

Type of program: Non-profit Professional Trade Association

Description: To support the national goals of stimulating women to achieve full potential in careers as engineers and leaders, expanding the image of

the engineering profession as a positive force in improving the quality of life, and demonstrating the value of diversity in our Region.

Program elements: Collegiate Efforts: To help us reach our goal, we offer assistance in many forms. We award more than \$500,000 in scholarships each year, we sponsor fun competitions, we have great job and internship search resources, and we recognize outstanding achievements through awards.

K-12 Efforts: SWE encourages girls to pursue engineering and technology careers through their outreach program ASPIRE and various events.

Career Assessment Tools; SWE offers career assessment tools for engineering that ranges from pre-college to professionals in the field
<http://www.engr.psu.edu/awe/>

Fields of study: Engineering, Technology, and general STEM fields

Target populations: Females

Contact information: Linda Thomas
503-968-4111
linda.thomas@swe.org
www.swe.org/regionj

Program Name: **SWRP: Student Watershed Research Project**

Type of program: Watershed education with emphasis on stream monitoring

Description: Teachers working with students in grades 8-12, mostly 9-12 in the Portland/Vancouver areas, are eligible for participation in the local SWRP program. SWRP is designed to function as a field based program working within the framework of formal education. The program is easily adapted for after school and club-type implementation.

Example: Westview High School incorporates the SWRP program into three sections of advanced placement ecology. The Clackamas Web Academy uses the SWRP program to fulfill the science requirements for their students. Cleveland High School conducts SWRP monitoring on 4 sites in the Johnson Creek Watershed as part of Youth Engaged. Student data is submitted as part of contracts with Clean Water Services in the Tualatin basin, Water Environment Services in Clackamas County, and the Tualatin River Watershed Council in Hillsboro.

Counties served: Clackamas, Clark, Multnomah and Washington

Fields of study: Chemistry, biomonitoring, hydrology, botany, ecology and data analysis

Target populations: Students in traditional, alternative, charter and career path programs

Contact information: Mary Ann Schmidt
503-725-2343
maryanns@pdx.edu
<http://www.swrp.esr.pdx.edu/>

Program Name: **TechStart Education Foundation**

Type of program: Other Educational Nonprofit

Description: TechStart is the education foundation of the Software Association of Oregon. TechStart aims to impact not just the technical ability, but also the teamwork, critical thinking, creativity, and problem solving skills of K-12 students by providing educator professional development and student enrichment programs in technology. We offer courses ranging from beginning web design to advanced robotics for K-12 teachers across the state of Oregon and in Southwest Washington. We also have two student annual programming competitions and provide scholarship awards for an outstanding educator and technology student each year.

Program elements: SuperQuest - Teacher technology training in pre-engineering, information technology and computer science
Equity in the Classroom - Promoting diversity in STEM
Oregon Game Project Challenge - Introducing students to computer science through gaming

Counties served: All northern Oregon counties

Fields of study: Engineering, Mathematics, Information Technology, Computer Science

Contact information: Natasha MacDonald
(503) 228-5440
info@techstart.org
www.techstart.org

Program Name: **The Center for Advanced Learning**

Type of program: Publically sponsored charter school

Description: The Center for Advanced Learning, as a regional facility, seeks to provide high school junior and senior students with advanced, specially designed learning environments, using contextualized learning and state-of-the-art technology applications that are aligned with state education and national industry-integrated standards. CAL courses allow students to work towards CIM, CAM, PASS and senior project requirements. There are CISCO and Microsoft certification programs and articulation programs with Mt. Hood Community College.

Program elements: Engineering/Advanced Manufacturing
Information Technology
InfoTech Web & InfoTech Networking

Counties served: Clackamas County, and Multnomah County

Fields of study: Engineering, Information Technology, Web Technologies

Target populations: Under-represented members of career fields

Contact information: Bill Lesh
503 667-2648
bill_lesh@thecenterforadvancedlearning.org
www.thecenterforadvancedlearning.org

Program Name: Upward Bound

Description: Upward Bound is a college preparatory program funded by the U.S. Department of Education. Eligible high school students receive tutoring, counseling and classroom instruction designed to help them enter and successfully complete a post-secondary program. During the school year, academic services are provided on a weekly basis. A minimum of five Saturday educational enrichment activities will occur on the Western Oregon University campus.

Fields of study: College preparatory program which includes math and science coursework, exposure to careers and college majors in math and science

Target populations: Low-income and or first-generation college bound

Contact information: Shondra Russell
503-838-8617
upwardbound@wou.edu

Program Name: West Salem High School/ Health Occupations

Type of program: K-12 School or Education District

Description: Our Health Occupations program gives students the opportunity to familiarize themselves in a variety of areas, including Medical Terminology, Sports Medicine, and individual careers of interest. Students complete hours of job shadowing as well as visiting colleges and universities in the area to further their training.

Program elements: Students participate in Health Career Days at Salem Hospital and Chemeketa Community College
Students organize and help run two Red Cross Blood Drives a year
Students complete 15+ hours of internships/job shadows

Counties served: Marion, Polk; Salem-Keizer School District

Fields of study: Healthcare, Science

Target populations: Target all students

Contact information: Janet Vandiver
503-399-5533
vandiver_janet@salkeiz.k12.or.us

Industry Training, Apprenticeship & Pre-Apprenticeship Programs

Program Name:	Independent Electrical Contractors of Oregon
Type of program:	Other Educational Nonprofit
Description:	We administer several electrical construction and service apprenticeship programs including inside electrical and limited energy (data, fire and telecom) level programs.
Program elements:	Chemeketa Community College Clackamas Community College Northwest College of Construction
Counties served:	Clackamas, Marion, Multnomah, Polk, Washington, and Yamhill
Fields of study:	Journey level training for electrical construction
Contact information:	John Killin 503-598-7789 john@iecoregon.org www.iecoregon.org

Program Name:	The NECA-IBEW Electrical Training Center (NIETC)
Description:	The NECA-IBEW Electrical Training Center (NIETC) is a state of the art training center in Portland, Oregon, Members of IBEW LU #48 and others enjoy the benefits of the 19 classrooms; seven specifically lab related, three large open labs dedicated to welding, conduit bending and circuitry, and a top rate 300 seat auditorium.
Program elements:	The NIETC trains apprentices for signatory contractors in residential, limited energy, and Commercial/Industrial programs. In addition to apprenticeship, the NIETC is proud of its commitment to membership training. Electricians working in the Jurisdiction of local 48 in both Washington and Oregon are required to attend continued education training every three years to maintain their license, improving and honing their skills along the way.
Counties served:	Throughout Oregon and Washington
Fields of study:	Journey level training for electrical construction
Contact information:	Rod Belisle 503-262-9991 www.nietc.org

Program Name: **NW Solar Expo and Clean Technology Showcase**

Description: This event brings together vibrant professionals, manufacturers, builders, along with government and non-profit agencies to train industry professionals and inform the general public on how they can take advantage of today's clean energy solutions. Many of the Professional Solar Training Conference Courses are approved for NABCEP continuing education credits.

Target populations: Adults and working young adults

Contact information: Daniel Maduell
503-236-0367
daniel@oseia.org
www.nwsolarexpo.com

Program Name: **Operating Engineers Local 701 Apprenticeship Program**

Description: Operating Engineers Local 701, located in Eugene, offers apprenticeship programs and journeyman upgrades serving the commercial and industrial construction industries, training workers in heavy equipment operation, repair and site surveying. The Operating Engineers Training Center is committed to reaching out to both middle and high school students, as well as community colleges. We do this by working with career counselors, classroom teachers and career events. We host visits to the Training Center for student and educator groups and attend many career fairs throughout the year across Oregon and SW Washington.

Program elements: *Heavy Equipment Operator* including cranes, forklifts, bulldozers, excavators, backhoes, graders, front-end loaders and paving equipment.
Heavy Duty Repairer (HDR) repair, rebuild and service the equipment and machinery that makes the construction industry run.
Technical Engineer (Tech) is the construction site surveyors that lay out the construction project according to the specifications and details in the project plans.

Counties served: Oregon and Southwest Washington

Fields of study: Heavy Construction

Contact information: Eugene number 541-741-7292
Portland Number: 503-723-6903
www.oetraining.org

Program Name: **Oregon Tradeswomen Inc.**

Description: Oregon Tradeswomen offers fun introductions to highly skilled, high-paying rewarding careers in the trades. Designed specifically for middle

and high school students, our mobile, interactive workshops happen at your site either during or after school. Groups should be no more than 20 students and at least half should be girls. We also offer educational materials and lesson plans through the TOGO (Trades Offer Girls Options) program. The Pathways to Success Program helps adult women interested in trades careers plan their pathways to entry-level work in the trades and apprenticeships.

Counties served: All northern Oregon counties
Fields of study: Trades
Target populations: Middle school girls and adult women
Contact information: Connie Ashbrook
503-335-8200
connie@tradeswomen.net
<http://www.tradeswomen.net/programs.html>

Program Name: **Portland YouthBuilders (PYB)**

Description: **Portland YouthBuilders (PYB)** is a nonprofit organization that provides educational, vocational, and leadership development programs for low-income men and women aged 17-24. Founded in Portland, Oregon in 1995, PYB is part of a network of over 200 YouthBuild programs around the country. Each year, we serve an average of 200 young people in the greater metropolitan area from our facility in outer Southeast Portland.

Program elements: **PYB** offers a holistic approach to youth development that incorporates high school education, job readiness training, community leadership and vocational training in either **construction or computer technology**. PYB is an approved pre-apprenticeship program by the Oregon Bureau of Labor and Industries and has special entry status in local carpentry programs.

Counties served: Throughout Oregon and Washington

Fields of study: Construction, computer technology

Contact information: Construction: Bill Kowalczyk
503-286-9350 X222
bill_k@pybpdx.org
Computer Technology: Angela McMahon
angela_m@pybpdx.org
503-232-0398
www.pybpdx.org

STATE APPRENTICESHIP OFFICES

Program Name: The Bureau of Labor and Industries (BOLI): Oregon

Description: The Bureau of Labor and Industries (BOLI) Apprenticeship Division and Technical Assistance provides information for employers and workers on how to find apprenticeship programs. BOLI has offices in Portland, Salem, Eugene, Bend, Medford and Pendleton. **BOLI** publishes an index for construction trades and another index for industrial trades and miscellaneous trades. These include an alphabetical listing of the occupations, the names and phone numbers of the apprenticeship committees, the geographical area designation and the page number where the occupation's summary can be found in the guide.

Counties served: Throughout Oregon

Fields of study: Construction, industrial trades and miscellaneous trades

Target Populations: Veterans

Contact information: BOLI Portland Office (serving Northern Oregon)
971-673-0760
www.oregon.gov/BOLI

Program Name: Washington State Department of Labor and Industries

Description: The Washington State Department of Labor and Industries Apprenticeship Division provides information for employers and workers on how to find apprenticeship programs throughout the state of Washington. The Division publishes a directory of apprenticeship programs, and provides services to connect job seekers to appropriate programs in their area.

Counties served: Throughout Washington

Fields of study: Construction, industrial trades, technicians, administrative occupations, and miscellaneous trades

Target Populations: Females

Contact information: Ed Madden, Apprenticeship Consultant
360-575-6927
madf235@LNI.wa.gov
www.lni.wa.gov/TradesLicensing/Apprenticeship/default.asp

STATE & REGIONAL SUPPORT ORGANIZATIONS FOR STEM

Program Name:	Oregon Department of Education
Description:	The Oregon Department of Education (ODE) does not run a STEM program, but we do provide support to STEM programs. In addition to my position as the Science Education Specialist, the ODE provides a technology, an engineering, and a math education specialist. The four of us meet regularly to ensure that we are working together to support STEM education in Oregon.
Program elements:	Provide technical support to ensure alignment with Oregon standards Provide communication support through newsletters, listservs, and web pages to disseminate information about camps, competitions, internships, etc.
Counties served:	The ODE serves the whole state of Oregon.
Fields of study:	ODE supports all types of STEM programs.
Contact information:	Cheryl Kleckner 503.947.5794 cheryl.kleckner@state.or.us http://www.ode.state.or.us/

Program Name:	Mathematics Education Unit at the Northwest Regional Educational Laboratory (NWREL)
Type of program:	Other educational Non-profit
Description:	NWREL's Mathematics Education unit provides products and services to support challenging and effective mathematics curriculum, instruction, and assessment for all students. The mathematics unit provides training and technical assistance to support the efforts of states, districts, schools, and teachers; to challenge all students to become rigorous thinkers and creative problem solvers; and to facilitate engaging and authentic learning experiences.
Program elements:	Teacher professional development in mathematics (K-12), classroom-embedded professional development in mathematics using video study groups and lesson study, teacher professional development for ELLs in mathematics, assessment development, mathematics program reviews and curriculum adoption facilitation
Counties served:	Clackamas, Columbia, Marion, Multnomah, Polk, Washington, Yamhill,
Fields of study:	Mathematics
Contact information:	Linda Griffin 503-275-9169 griffinl@nwrel.org , http://www.nwrel.org/math/

Community Colleges Serving Northern Oregon STEM Region

Colleges	Contacts
Chemeketa 4000 Lancaster Dr. NE/PO Box 14007 Salem, OR 97309-7070 Admissions: (503) 399-5006 www.chemeketa.edu	Ron Jantzi, Associate Dean Math, Science, Trades and Technologies janr@chemeketa.edu Eileen Casey-White, Career Pathways Eileen@chemeketa.edu Ron Hulett, Associate Dean, Computer Science, Business, Management, Electronics ron@chemeketa.edu Kay Carnegie, Associate Dean of Health Sciences cark@chemeketa.edu
Clackamas 19600 Molalla Avenue Oregon City, OR 97045-7998 Admissions: (503) 657-6958 http://www.clackamas.edu	Scott Giltz, Dean, Technical Career scottg@clackamas.edu Dave Arter: Department Chair, Physical Science davea@clackamas.edu Steffen Moller: Dean, Business, Math, Sciences steffenm@clackamas.edu Stefan Baratto: Department Chair, Mathematics, Mathematics sbaratto@clackamas.edu LeRoy Cook: Department Chair, Drafting Technology lcook@clackamas.edu Mike Mattson: Department Chair, Manufacturing Technology mattsonm@clackamas.edu
Mt. Hood 26000 SE Stark Street Gresham, OR 97030-3300 Admissions: (503) 491-6422 http://www.mhcc.edu	Charmagne Ehrenhaus, Dean, Engineering, Computer Information Systems, Math, and Science Charmagne.Ehrenhaus@mhcc.edu Jack Green, Math & Engineering Dept Chair jack.green@mhcc.edu Phil Dean, Interim Dean, Sciences Phil.Dean@mhcc.edu Donna Larsen, Dean, Allied Health Donna.Larson@mhcc.edu Kim Freeman, Dean of Economic & Workforce Development and Industrial Technologies Kimberly.Freeman@mhcc.edu
Portland Community College 12000 SW 49th Ave./PO Box 19000 Portland, OR 97280-0990 Admissions: (503) 977-4519 http://www.pcc.edu	Josephine Pino, Bioscience Technology josephine.pino@pcc.edu John McKee, Division Dean, Science, Computer Technology and Real Estate john.mckee@pcc.edu Jeff Triplett, Division Dean, Engineering, Math and Industrial Technology jtriplett@pcc.edu John Saito, Division Dean, Health Professions, Early Childhood Ed and Physical Ed john.saito15@pcc.edu Eric Kirchner, Microelectronics Technology microelec@pcc.edu Sanda Williams, EET sanda.williams@pcc.edu Claudia Michel, Nursing cmichel@pcc.edu Virginia Vanderford, Medical Imaging vvanderf@pcc.edu Josette Beach, Dental Sciences jbeach@pcc.edu

STEM-related Certificates & Degrees Offered by Community Colleges

	Chemeketa	Clackamas	Mt Hood	PCC
Health Services				
Biotechnology Lab Assistant				A
Dental Assisting & Hygiene	C	C	A	C,A
Emergency Medical Technology (EMT)	A	A,C		A,C
Gerontology		C		A,C
Health Information Technology	C			
Medical Assisting		C	A	C
Medical Lab Technology		C		A
Medical Office Assistant	C	C	A,C	C
Medical Transcription	A		A	
Mental Health			A	
Nursing Assistant				
Nursing	A,C	A	A,C	A,C
Ophthalmic Technology				A
Pharmacy Technology	A,C			
Phlebotomy				
Radiologic technology				A
Respiratory therapy			A	
Surgical Technology			A	
Computer Technologies & Services				
Computer Applications		A,C	C	A,C,P
Computer Technical Support				
Computer Science	A,P		A,C	A,C
Multi-media				A,C
Digital Imaging/Design			A	
Computer Operations/Web Development		A,C		A,C
Network Technologies	A,P	A,C	A,C	A
Printing Graphics Technology		C		
Engineering Systems				
Civil Engineering Technology	A,C		A	A,C
Drafting Technology	A,C,P	A		C
Electronics Technology	A,C	A,C		A,C
Engineering Technology		A,C,P	A,C	A,C
Industrial Technology				
Integrated Circuit Mask Design	C			
Manufacturing Technology		A,C		A,C,P
Microelectronics Systems		A,C		A
Survey Technologies	C	A,C		
Sciences & Natural Resources				
Aquarium Sciences	A,C			
Environmental Management			A,C	
Geographical Information Systems (GIS)		A,C		
Renewal Energy Technologies		A,C,P		A,C
Water/Wastewater Technologies		A,C		
Industry & Trades				
Automotive Technology	C	A,C,P	A	A,C
Construction Technology				A,C
Equipment Repair			A,C	
Machine Tool Technology	A,C		A,C	A,C
Refrigeration/HVAC				A,C,P
Welding & Fabrication	A,C	A,C	C	A,C

A= Associates Degree C=Certificate P=Career Pathway Certificate within AA degree

Public Colleges & Universities

Oregon Institute of Technology: Portland

East Campus: Main Number: 503-821-1250
West Campus: Main Number: 503-821-1275

Contact Information:

Health Informatics: Michael Kirshner; 503-821-1249
Engineering Technology: Lawrence Wolf, 503-821-1275;
Information Technology: Grant Kirby; 503-821-1273;
Paramedic: 503-625-4720
Renewable Energy Systems: Dr. Robert Bass 503.821-1253
Software Engineering: Jay Bockelman 503.821-1271

STEM Degrees

Clinical Laboratory Science Program
Electronics Engineering Technology
Information Technology:
 Health Informatics
 Applications
 Business/systems Analyst
M.S. in Manufacturing Engineering
 Technology

Manufacturing Engineering Technology
Mechanical Engineering Technology
Operations Management
Paramedic Program
Renewable Energy Engineering
Software Engineering Technology

Portland State University

Contact Information:

Main Number 503-725-3000
Admissions: 503.725.3511; admissions@pdx.edu
College of Liberal Arts & Sciences: 503-725-3514
Engineering & Computer Sciences: 503-725-4631; info@cecs.pdx.edu

STEM Degrees

College of Liberal Arts & Sciences

Anthropology
Biology
Biotechnology (Certificate)
Chemistry
Chemistry: Biochemistry
Computer Applications (Minor only, for
Geology)
Economics

Environmental Geology (Minor)
Environmental Studies
Environmental Management:
Environmental Sciences & Resources:
Geology
International Economics (Minor)
Mathematics
Physics

Political Economy (Minor)
Psychology
Science
Space and Planetary Science (Minor)

Speech-Language Pathology
Statistics
Sustainability (Minor)

Maseeh College of Engineering & Computer Science

Biomedical Informatics
Civil Engineering
Computer Engineering
Computer Science

Electrical Engineering
Environmental Engineering (Minor)
Mechanical Engineering

School of Business Administration

Business Administration

Options:

Accounting
Accounting (Post-Bac Certificate)
Advertising Management*
Finance
Food Industry Management
(Certificate)
General Business Administration*

Human Resource Management
Information Systems
International Business Studies
(Certificate)
Management
Marketing
Real Estate Finance
Supply and Logistics Management

Oregon State University

Contact Information:

Office of Admissions, 541-737-4411, toll-free: 800-291-4192
College of Agricultural Sciences: 541-737-2331; agsci@oregonstate.edu
College of Engineering: 877.257.5182; engr.oregonstate.edu
College of Forestry, Phone: 541-737-2004
College of Health and Human Sciences, 541-737-3220; 888-219-4513 (toll free)
Ocean and Atmospheric Sciences: 541-737-3504; www.coas.oregonstate.edu
College of Science 541-737-4811
College of Veterinary Medicine: 541-737-2098

STEM Degrees

Agricultural Sciences

Agricultural Business Management
Animal Sciences
Crop Science and Soil Science
Environmental Economics, Policy and
Management

Fisheries and Wildlife Science
Food Science and Technology
General Agriculture
Horticulture
Rangeland Ecology and Management

Business

Business Administration

Engineering

Bioengineering
Chemical Engineering
Civil Engineering

Computer Science
Construction Engineering Management
Ecological Engineering

Electrical and Computer Engineering
Engineering Physics
Environmental Engineering
Industrial Engineering
Manufacturing Engineering

Forestry

Forest Engineering
Forest Engineering/Civil Engineering
Forest Management

Health and Human Sciences

Exercise and Sport Science
Health Management and Policy
Health Promotion and Health Behavior

Interdisciplinary

Bioresource Research
Environmental Science
Natural Resources

Liberal Arts

Anthropology
Economics
Psychology
Sociology

Pre-Pharmacy

Science

Biochemistry and Biophysics
Biology
Botany
Chemistry
Computational Physics
Earth Science
General Engineering (Freshman Only)
General Science

Veterinary Medicine

Mechanical Engineering
Nuclear Engineering
Radiation Health Physics
Civil Engineering/Forest Engineering

Forest Operations Management
Recreation Resource Management
Wood Science and Technology

Human Development and Family Sciences
Nutrition

Geography
Geology
Mathematical Sciences
Mathematics
Microbiology
Physics
Zoology

University of Oregon

Contact Information:

Main Number: (800) BE-A-DUCK
(541) 346-3201

STEM Degrees

College of Arts and Sciences

Anthropology

Biochemistry

Biology
Chemistry
Computer and information science
Economics
Environmental science
Environmental studies
Ethnic studies
French
General science
Geography

Geological sciences
Human physiology
Marine biology
Mathematics
Mathematics and computer science
Physics
Psychology
Sociology

Lundquist College of Business (541) 346-3257

Accounting
Business administration

Western Oregon University

Contact Information:

Division of Business and Economics
(503) 838-8421; e-mail business@wou.edu
Division Of Natural Sciences & Mathematics
Biology, (503) 838-8206

STEM Degrees

Business
Economics
Accounting
Computer Science
Information Systems

Chemistry
Earth Science
Mathematics
Physics option
Psychology

Private Colleges & Universities

George Fox University

414 North Meridian Street
Newberg, OR 97132
503-538-8383
www.georgefox.edu

STEM Degrees:

- Allied Health
- Applied Science
- Biology
- Chemistry
- Computer and Information Science
- Engineering
- Mathematics

Lewis & Clark College

0615 S.W. Palatine Hill Road
Portland, OR 97219-7899
503-768-7000
www.lclark.edu

Contact Information

Biochemistry & Molecular Biology 503-768-7530
Biology 503-768-7511
Chemistry 503-768-7530
Mathematics 503-768-7560
Physics 503-768-7575

STEM Degrees:

- Computer Science
- Biochemistry and Molecular Biology
- Biology
- Chemistry
- Environmental Studies
- Mathematical Sciences

Linfield College

900 SE Baker Street
McMinnville, OR 97128
503-883-2200
www.linfield.edu

Contact Information

Chemistry: Liz Atkinson 503-883-2308
Mathematics Stephen Bricher 503-883-2260
Physics/LRI: Tianbao Xie 503-883-2572

STEM Degrees:

- Applied Physics
- Biology
- Chemistry
- Computer Science

- General Science
- Mathematics
- Physics
- Nursing (Portland Campus)
- Health Sciences (Portland)

Oregon Health & Science University

3181 S.W. Sam Jackson Park Rd.
Portland, OR 97239-3098
503-494-8311
www.ohsu.edu

Contact Information

Allied Health: 503-494-7474
Biomedical Engineering: 503 418-9302
Biomedical Computer Science: 503 748-1635
Environmental & Biomolecular Systems: 503 748-1070

STEM Degrees:

- Allied Health
- Medical Informatics
- Computer Science and Engineering
- Speech, Language, and Interactive Systems Technology
- Machine Learning & Adaptive Systems
- Biomaterials & Biomechanics
- Biochemistry and Molecular Biology
- Biomedical Engineering
- Biomedical Informatics
- Computer Science and Engineering
- Electrical Engineering
- Environmental Science and Engineering
- Management in Science & Technology

Pacific University

2043 College Way
Forest Grove, OR 97116
www.pacificu.edu

Contact Information

503.352.6151 Main number
503-352-2218 Dental Health Sciences
503-352-7268 Occupational therapy
503.352.7272 Physician Assistant
503-352-7283 Pharmacy
503-352-7378 Physical Therapy
503-352-2127 Chemistry

503-352-2900 Professional Psychology
503-352-7359 Health Administration
503-357-6151 Bioinformatics
503-357-6151 Biology
503-352-1496 Mathematics & computer science
503-352-1496 Physics

STEM Degrees:

- Dental Health Science
- Occupational Therapy
- Physician Assistant Studies
- Pharmacy
- Physical Therapy
- Professional Psychology
- Master's of Healthcare Administration
- Biology
- Chemistry
- Computer Science
- Environmental Studies
- Exercise Science
- Mathematics
- Physics

University of Portland

5000 N. Willamette Blvd.
Portland, OR 97203-5798
503-943-8000
www.up.edu

Contact Information

School of Engineering: 503-943-7180
School of Nursing: 503-943-7211
School of Arts & Sciences: 503-943-7221

STEM Degrees:

- Biology
 - Chemistry
 - Civil & Environmental Engineering
 - Computer Science
 - Electrical Engineering
 - Engineering Management
 - Environmental Science
 - Mathematics
 - Mechanical Engineering
 - Physics
-

Willamette University

900 State Street
Salem, OR 97301
503-370-6300
www.willamette.edu

Contact Information

Biology 503-370-6013
Chemistry: 503-370-6013
Computer Science: 503-370-6165
Environmental Science: 503-370-6077
Exercise Science: 503-370-6392
Physics: 503-370-6330

STEM Degrees:

- Biology
- Chemistry
- Computer Science
- 3-2 Engineering (non-degree)
- Environmental Science
- Exercise Science
- Mathematics
- Physics

Southwest Washington STEM Initiatives

Programs Serving K-12 Students

Program Name: Evergreen STEM Programs: K-12 Science

Parent Organization: Evergreen Public Schools

Description: Evergreen Public Schools has over 25,000 students enrolled in our K -12 Science and Mathematics Programs. Evergreen provides yearlong science and mathematics to all K-10 students, and a variety of choices based on student interest in grades 11 and 12. Evergreen has project that integrate AP & CTE courses such as a bio-diesel and alternative vehicle design project involving students in chemistry, business, digital design and small engines. Other STEM projects in the district include:

Professional Development for Teachers
Science Olympiad
MESA (Math Engineering and Science Achievement) Coaches

Website: www.egreen.wednet.edu

STEM Fields of Study: ☒ General intro to STEM fields ☒ Bio & environmental sciences ☒ Computer sciences/IT
☒ Energy ☒ Engineering /Technology ☒ Health sciences
☒ Mathematics ☒ Physical sciences ☐ Other

Geographies served: Evergreen Public Schools

Markets Served ☐ Primary Grades ☒ Middle School ☒ High Schools
☐ Post-Secondary students ☐ Teachers ☐ Adults Job Seekers

Targeted Populations MESA: Under represented populations in math and science

Contact Information: Tom Archer
360-604-4000 X 4586
tarcher@egreen.wednet.edu

Program Name: nConnect (formerly MAPS)

Description: nConnect links businesses and professionals in the community with high school teachers and students. MAPS focuses on mentoring for AP students in STEM fields and enrichment activities for AP students

Website: www.apmentoring.org

STEM Fields of Study: ☒ General intro to STEM fields ☐ Bio & environmental sciences ☐ Computer sciences/IT
☐ Energy ☐ Engineering /Technology ☐ Health sciences
☐ Mathematics ☐ Physical sciences ☐ Other

Geographies served: Clark County, WA

Markets Served ☐ Primary Grades ☐ Middle School ☒ High Schools
☐ Post-Secondary students ☐ Teachers ☐ Adults Job Seekers

Targeted Populations High School students taking AP classes

Contact Information: Natalie Pacholl
360-718-1603
natalie.pacholl@apmentoring.org

Program Name: Science Olympiad: SW Washington Region

Parent Organization: Coordinated through Clark College

Description: Science Olympiad is an international nonprofit organization devoted to improving the quality of science education, creating a passion for learning science and providing recognition for outstanding achievement in science education by both students and teachers. These goals are accomplished through classroom activities, research, professional development workshops and the encouragement of intramural, district, regional, state, national and international tournaments. The Southwest Washington region sponsors coaching workshops, tournaments and other activities.

Website: <http://www.washingtonscienceolympiad.com/index.html>

STEM Fields of Study: ☒ General intro to STEM fields ☒ Bio & environmental sciences ☐ Computer sciences/IT
☐ Energy ☒ Engineering/Technology ☒ Health sciences
☒ Mathematics ☒ Physical sciences ☐ Other

Geographies served: Clark County, Cowlitz County

Markets Served ☐ Primary Grades ☒ Middle School ☒ High Schools
☐ Post-Secondary students ☐ Teachers ☐ Adults Job Seekers

Targeted Populations:

Contact Information: Tina Barsotti
(360) 992 – 2354
cbarsotti@clark.edu

Program Name: Pre-Engineering

Parent Organization: Clark County Skills Center

Description: We prepare students to go directly to work or to continue their education in health careers, engineering, and, computer sciences by increasing technical skills and assisting with industry certification.

Website: www.ccskillscenter.com

STEM Fields of Study: ☐ General intro to STEM fields ☐ Bio & environmental sciences ☒ Computer sciences/IT
☐ Energy ☒ Engineering/Technology ☒ Health sciences
☐ Mathematics ☐ Physical sciences ☐ Other

Geographies served: Clark County, WA

Markets Served ☐ Primary Grades ☐ Middle School ☒ High Schools
☐ Post-Secondary students ☐ Teachers ☐ Adults Job Seekers

Targeted Populations high school Juniors and Seniors
high school dropouts
private and home school students

Contact Information: Dennis Kampe
360-604-1060
dkampe@egreen.wednet.edu

Program Name: **Project Lead the Way - (Pre-Engineering Program)**

Parent Organization: **Battle Ground School District**

Description: Introduction to Engineering Design is the first course in a series of classes based on the national Project Lead the Way -pre-engineering training program. This introductory course will be offered for the first time at Prairie High School during the 2008-09 school year for grades 9,10,11 & 12. Subsequent courses will be added as the program develops.

Website: n/a

STEM Fields of Study: ☒ General intro to STEM fields ☐ Bio & environmental sciences ☐ Computer sciences/IT
☐ Energy ☒ Engineering /Technology ☐ Health sciences
☐ Mathematics ☐ Physical sciences ☐ Other

Geographies served: Clark County, WA
Battle Ground School District

Markets Served: ☐ Primary Grades ☐ Middle School ☒ High Schools
☐ Post-Secondary students ☐ Teachers ☐ Adults Job Seekers

Targeted Populations Females

Contact Information: Denice Harvey
360-885-5359
harvey.denice@bgsd.k12.wa.us

Program Name: **Project Lead The Way/Gateway to Technology**

Parent Organization: **Clark College/Vancouver School District**

Description: **Project Lead The Way** is all about teaching and learning. The hands-on, project and problem-based PLTW approach adds rigor to traditional technical programs and relevance to traditional academics. PLTW's curriculum makes math and science relevant for students. By engaging in hands-on, real-world projects, students understand how the skills they are learning in the classroom can be applied in everyday life. This approach is called activities-based learning, project-based learning, and problem-based learning or APPB-learning. **Gateway To Technology's® (GTT)** cutting-edge program addresses the interest and energy of middle school students, while incorporating national standards in mathematics, science, and technology. Gateway To Technology® is "activity oriented" to show students how technology is used in engineering to solve everyday problems in units of study. There are currently four instructional units that excite and motivate students to use their imaginations and teach them to be creative and innovative,

while gaining the skills they need to develop, produce, and use products and services.

Website: www.pltw.org

STEM Fields of Study: ☒ General intro to STEM fields ☒ Bio & environmental sciences ☒ Computer sciences/IT
☐ Energy ☒ Engineering/Technology ☐ Health sciences
☒ Mathematics ☒ Physical sciences ☐ Other

Geographies served: Clark County, WA

Markets Served ☐ Primary Grades ☐ Middle School ☒ High Schools
☐ Post-Secondary students ☐ Teachers ☐ Adults Job Seekers

Contact Information: Wendi Russell
360-313-1356
wendi.russell@vansd.org

Program Name: Gateway to Technology (GTT)

Parent Organization: Project Lead the Way (PLTW)

Description: The GTT math, science and technology program consists of five nine-week independent units taught in grades 6-8. The units include:

- *Design and Modeling* - students use geometry, problem solving, teamwork, and project management skills to design and develop product prototypes.
- *The Magic of Electrons* – Students unravel the mysteries of digital circuitry.
- *The Science of Technology* – Students apply scientific principles and concepts of simple machines and energy to solve real-world problems.
- *Automation and Robotics* – Students design and build automated systems incorporating the principles of electronics, physics to better understand the mechanized world.

Website: http://www.pltw.org

STEM Fields of Study: ☒ General intro to STEM fields ☐ Bio & environmental sciences ☐ Computer sciences/IT
☐ Energy ☒ Engineering/Technology ☐ Health sciences
☐ Mathematics ☐ Physical sciences ☐ Other

Geographies served: Evergreen Public Schools in Clark County

Markets Served ☐ Primary Grades ☒ Middle School ☐ High Schools
☐ Post-Secondary students ☐ Teachers ☐ Adults Job Seekers

Targeted Populations All 6th grade students as intro course, outreach to females in 7th-8th

Contact Information: Susan Dixon
360-604-4068
sdixon@egreen.wednet.edu

Program Name: **Saturday Academy**

Description: Saturday Academy offers STEM educational enrichment to youth in grades 2-12 through three program models: Catalog Classes & Camps, high school Apprenticeships in Science & Engineering (ASE), and Saturday Academy in the Schools (LEAP & AfterSchool). Our mission is to inspire young people to explore their world through hands-on, inquiry-based learning with community experts and professionals. Our goal is to reinforce the joy of learning, assist young people in developing intellectually and help them prepare for rewarding careers in STEM-related fields.

Classes & Summer Camps
Apprenticeships in Science & Engineering
Scientists in the Schools

Website: www.saturdayacademy.org

STEM Fields of Study: ☒ General intro to STEM fields ☐ Bio & environmental sciences ☒ Computer sciences/IT
☐ Energy ☒ Engineering/Technology ☒ Health sciences
☐ Mathematics ☐ Physical sciences ☐ Other

Geographies served: Clark County, WA
Clackamas, Columbia County, Multnomah County, Washington County, OR

Markets Served ☒ Primary Grades ☒ Middle School ☒ High Schools
☐ Post-Secondary students ☐ Teachers ☐ Adults Job Seekers

Targeted Populations Youth in grades 2-12
Under represented minorities (Native American, African American, Latino/a)
Females

Contact Information: Wendy Thompson
503-200-5859
wendy@saturdayacademy.org

Program Name: **SEMI High Tech U**

Parent Organization: **SEMI Foundation**

Description: SEMI High Tech U is an industry driven, career exposure program targeting high school sophomores, juniors and seniors that provides hands on activities and lectures in math, science and technology.

Website: www.semi.org/advocacy/hightechu

STEM Fields of Study: ☒ General intro to STEM fields ☒ Bio & environmental sciences ☒ Computer sciences/IT
☐ Energy ☒ Engineering/Technology ☐ Health sciences
☐ Mathematics ☐ Physical sciences ☐ Other

Geographies served: Clark County, WA
Multnomah County, Washington County, OR

Markets Served ☐ Primary Grades ☐ Middle School ☒ High Schools
☐ Post-Secondary students ☒ Teachers ☐ Adults Job Seekers

Targeted Populations "B"/"C" students ("average" students with potential)
females
diversity reflecting the recruitment area

Contact Information: Leslie Tugman
503 788 3158
leslie@tugmanechols.com

Program Name: **SW WA MESA**

Parent Organization: **WSUV and Washington MESA**

Description: Through MESA, students of color and girls achieve their full potential in math, engineering, and science. MESA provides academic enrichment to students who, as adults, are underrepresented in STEM fields: African Americans, Latino/as, Native Americans, and female students, in a supportive, challenging, and fun learning community. MESA helps close the academic achievement gap and set students on the path to careers in STEM fields thereby strengthening and diversifying the workforce in the state of Washington.

- ♦ After school club programming in middle and high schools,
- ♦ STEM-related events: annual hands-on competition; annual hands-on career exploration; summer science camp
- ♦ Field trip and speakers to connect real world applications of math and science to student learning

Website: <http://www.seattlemesa.org/> sw wa mesa website is under construction.

STEM Fields of Study: ☒ General intro to STEM fields ☒ Bio & environmental sciences ☒ Computer sciences/IT
☐ Energy ☒ Engineering /Technology ☐ Health sciences
☐ Mathematics ☐ Physical sciences ☐ Other

Geographies served: Clark County, Evergreen and Vancouver School Districts

Markets Served ☐ Primary Grades ☒ Middle School ☒ High Schools
☐ Post-Secondary students ☐ Teachers ☐ Adults Job Seekers

Targeted Populations African-American
Latino/a
Native American

Contact Information: Martha Perkins, Director
360.992.6091
perkinsm@vancouver.wsu.edu

Program Name: **Science and Math Education Resource Center (SMERC)**

Parent Organization: **ESD 112**

Description: The Science & Math Education Resource Center is a partnership between regional school districts, Educational Service District 112, Washington State University, and Hewlett Packard committed to creating exemplary teaching and learning environments in Mathematics and Science. SMERC supports a variety of private and publicly funded initiatives that support teachers and administrators including instructional materials support, professional development, assessment development, leadership training, and curriculum/standards development. SMERC also provides regional leadership on STEM education research and development. *Also see SMERC under Teacher Development*

- ♦ Mathematics Regional Initiative
- ♦ Science Materials Center
- ♦ STRIDE (Supporting Teacher Research: Inquiry, Dialogue, and Engagement) – a WSUV partnership
- ♦ SW Washington LASER (Leadership and Assistance for Science Education Reform)
- ♦ ASK (Assessing Science Knowledge)
- ♦ Math and Science Count (a statewide initiative)
- ♦ Global Change in a Local Context: Partners in Discovery of the Columbia River Watershed (a WSUV partnership)
- ♦ Elementary Science Leadership Institute
- ♦ National Academy for Curriculum Leadership

Website: www.esd112.org

STEM Fields of Study: ☒ General intro to STEM fields ☒ Bio & environmental sciences ☐ Computer sciences/IT
☐ Energy ☒ Engineering/Technology ☐ Health sciences
☒ Mathematics ☒ Physical sciences ☐ Other

Geographies served: Clark County, Cowlitz County, Skamania County, Wahkiakum County, WA
all areas of ESD 112

Markets Served ☐ Primary Grades ☒ Middle School ☒ High Schools
☐ Post-Secondary students ☒ Teachers ☐ Adults Job Seekers

Contact Information: Anne Kennedy & Mark Lewis
 360-750-7500
anne.kennedy@esd112.org; mark.lewis@esd112.org

Program Name: **Southwest Washington-Transitions in Mathematics Education (SW-TIME)**

Parent Organization: **Washington State University**

Description: Washington State University, Vancouver (WSUV), in partnership with Clark College and two regional K-12 school districts, Battleground and Evergreen, is exploring and developing a substantive regional plan that will target high school students who have passed the 10th grade math WASL exam, do not elect to take any more math in junior or senior years, but may, nonetheless, go to college.

Website: <http://www.transitionmathproject.org/partners/time-sw/time-sw.asp>

STEM Fields of Study: ☒ General intro to STEM fields ☐ Bio & environmental sciences ☐ Computer sciences/IT
☐ Energy ☐ Engineering/Technology ☐ Health sciences
☒ Mathematics ☐ Physical sciences ☐ Other

Geographies served: Clark County WA

Markets Served ☐ Primary Grades ☐ Middle School ☒ High Schools
☐ Post-Secondary students ☒ Teachers ☐ Adults Job Seekers

Targeted Populations

Contact Information: Barbara Feeouf
 (360) 546-9426
freeouf@vancouver.wsu.edu

Program Name: **WSU Vancouver/WSU Extension Center for Youth Workforce Preparation (CYWP)**

Parent Organization: **Washington State University**

Description: CYWP provides career exploration and post-high school planning opportunities for middle school, high school and college students. Four ongoing programs are held: "Connections", "Do the Math Engineering Day"; "PaCE Academy"; "4-H Teen-Works". Over 1,500 students have been enrolled in CYWP programs since it was founded in October 2005. Multiple campus and community partnerships are critical in carrying out the CYWP mission.

Website: www.vancouver.wsu.edu/cywp

STEM Fields of Study: ☒ General intro to STEM fields ☒ Bio & environmental sciences ☒ Computer sciences/IT
☒ Energy ☒ Engineering/Technology ☒ Health sciences
☐ Mathematics ☒ Physical sciences ☒ Other: Digital video production Robotics

Geographies served: Primary: SW Washington and Portland metro area.
 Secondary: Washington State 4-H

Markets Served ☐ Primary Grades ☒ Middle School ☒ High Schools
☒ Post-Secondary Students ☒ Teachers ☒ Adult Learners

Targeted Populations: underserved populations, students with disabilities

Contact Information: Michael Holroyd, Director & Associate Professor
 WSU Vancouver/WSU Extension
 360-546-9121
holroyd@vancouver.wsu.edu

Program Name: **Youth Workforce**

Parent Organization: **Educational Service District 112**

Description: Provide educational and career development training to income-eligible youth, ages 16-21. Emphasis on high school or equivalent completion and career exploration for high demand occupations including pre-apprenticeships and apprenticeships, as well as post-secondary training/education opportunities.

Website: www.esd112.org/ywp

STEM Fields of Study: ☒ General intro to STEM fields ☐ Bio & environmental sciences ☐ Computer sciences/IT
☐ Energy ☐ Engineering/Technology ☐ Health sciences
☐ Mathematics ☐ Physical sciences ☐ Other

Geographies served: Clark County, Cowlitz County, Wahkiakum County, WA

Markets Served ☐ Primary Grades ☐ Middle School ☒ High Schools
☒ Post-Secondary students ☐ Teachers ☐ Adults Job Seekers

Targeted Populations Income-eligible (low income)
 Youth ages 16-21 (that qualify for Workforce Investment Act - WIA- assistance)

Contact Information: Gail Spolar
 360-750-7500 ext. 146
gail.spolar@esd112.org

Programs Serving K-12 Teachers & Administrations

Program Name: Science and Math Education Resource Center (SMERC)

Parent Organization: ESD 112

Description: The Science & Math Education Resource Center is a partnership between regional school districts, Educational Service District 112, Washington State University, and Hewlett Packard committed to creating exemplary teaching and learning environments in Mathematics and Science. SMERC operates in the SW Washington area with a variety of specific projects including:

- ♦ Mathematics Regional Initiative
- ♦ Science Materials Center
- ♦ STRIDE (Supporting Teacher Research: Inquiry, Dialogue, and Engagement) – a WSUV partnership
- ♦ SW Washington LASER (Leadership and Assistance for Science Education Reform)
- ♦ ASK (Assessing Science Knowledge)
- ♦ Math and Science Count (a statewide initiative)
- ♦ Global Change in a Local Context: Partners in Discovery of the Columbia River Watershed (a WSUV partnership)
- ♦ Elementary Science Leadership Institute
- ♦ National Academy for Curriculum Leadership

Website: www.smerc.org

STEM Fields of Study: ☒ General intro to STEM fields ☒ Bio & environmental sciences ☐ Computer sciences/IT
☐ Energy ☒ Engineering/Technology ☐ Health sciences
☒ Mathematics ☒ Physical sciences ☐ Other

Geographies served: Clark County, Cowlitz County, Skamania County, Wahkiakum County, WA
all areas of ESD 112

Markets Served ☐ Primary Grades ☒ Middle School ☒ High Schools
☐ Post-Secondary students ☒ Teachers ☐ Adults Job Seekers

Contact Information: Anne Kennedy & Mark Lewis
360-750-7500
anne.kennedy@esd112.org; mark.lewis@esd112.org

Program Name: Partners in Discovery of the Columbia River Watershed GK-12 Program

Parent Organization: WSU Vancouver

Description: This new program, the Partners in Discovery of the Columbia River Watershed GK-12 Program is a 5-year project, supported by the National Science Foundation, that partners WSU Vancouver Environmental Science graduate students with 6th-9th grade science teachers in 3 Clark County school districts. The graduate student scientists and the teachers work one-on-one over a full academic year to bring research and scientific inquiry into the classroom, and to enhance the teachers' existing science curriculum.

Website: Under construction

STEM Fields of Study: ☐ General intro to STEM fields ☒ Bio & environmental sciences ☐ Computer sciences/IT
☐ Energy ☐ Engineering/Technology ☐ Health sciences
☐ Mathematics ☒ Physical sciences ☐ Other

Geographies served: Clark County, WA
WSUV is partnered with the La Center, Vancouver and Camas School Districts,

Markets Served ☐ Primary Grades ☒ Middle School ☒ High Schools
☐ Post-Secondary students ☒ Teachers ☐ Adults Job Seekers

Targeted Populations WSUV graduate students (esp. groups underrepresented in science)
6th-9th grade science teachers (Vancouver, La Center & Camas school districts)
6th-9th grade students (Vancouver, La Center & Camas school districts)

Contact Information: Gretchen Rollwagen-Bollens
360-546-9115
rollboll@vancouver.wsu.edu

APPRENTICESHIP PROGRAMS

Program Name: Registered Apprenticeship, Washington State

Parent Organization: Department of Labor and Industries

Description: Registered Apprenticeship is privately funded education and training based on standards developed and sponsored by industry employer(s) for employees to become occupational qualified. The occupation must be recognized by industry as requiring at least 2,000 hours of on the job learning and 144 clock hours of classroom instruction. The occupation may be in a STEM related field, but that is not an apprenticeship requirement.

Website: <http://www.lni.wa.gov/TradesLicensing/Apprenticeship>

STEM Fields of Study:

☒ General intro to STEM fields	☒ Bio & environmental sciences	☒ Computer sciences/IT
☒ Energy	☒ Engineering/Technology	☒ Health sciences
☐ Mathematics	☐ Physical sciences	☐ Other

Geographies served: Clark County, Cowlitz County, Wahkiakum County, WA
Columbia County, Multnomah County, Washington County, OR

Markets Served

☐ Primary Grades	☐ Middle School	☐ High Schools
☒ Post-Secondary students	☐ Teachers	☒ Adults Job Seekers

Targeted Populations Women and minorities.
Graduates of Career and Technical Education programs from high schools and/or community colleges.

Contact Information: Ed Madden, Apprenticeship Consultant
360-575-6927
madf235@lni.wa.gov

POST-SECONDARY PROGRAMS

Program Name: Clark College Dept. of Mathematics

Parent Organization: Clark College

Description: Teach precollege and the first two years of college mathematics course. Engage in outreach with local school districts and other institutions of higher education.

Website: <http://web.clark.edu/math/>

STEM Fields of Study: ☒ General intro to STEM fields ☐ Bio & environmental sciences ☐ Computer sciences/IT
☐ Energy ☐ Engineering/Technology ☐ Health sciences
☒ Mathematics ☐ Physical sciences ☐ Other

Geographies served: Clark County, Cowlitz County,

Markets Served ☐ Primary Grades ☐ Middle School ☐ High Schools
☐ Post-Secondary students ☐ Teachers ☐ Adults Job Seekers

Targeted Populations

Contact Information: Paul Casillas
360-992-2545
pcasillas@clark.edu

Program Name: Science, Technology, Engineering, and Math (STEM) Unit

Parent Organization: Clark College

Description: College-Level instruction in: Agriculture/Horticulture, Astronomy, Biology, Chemistry, Computer Aided Drafting and Design, Computer Science, Chemistry, Engineering, Environmental Science, Field Survey Technician, Geology, Mathematics, Meteorology, Nutrition, Physical Science, and Physics.

Articulation and Curriculum Coordination with High Schools (especially Math)
Outreach to under-represented groups (College is Possible, Women in STEM)

Website: <http://www.clark.edu>

STEM Fields of Study: ☒ General intro to STEM fields ☒ Bio & environmental sciences ☒ Computer sciences/IT
☐ Energy ☒ Engineering/Technology ☒ Health sciences
☒ Mathematics ☒ Physical sciences ☐ Other

Geographies served: Clark County, Skamania County, Western Portion of Klickitat County

Markets Served ☐ Primary Grades ☐ Middle School ☐ High Schools
☒ Post-Secondary students ☒ Teachers ☐ Adults Job Seekers

Targeted Populations Women in STEM
Under-represented youth and families (College is Possible)

Contact Information: Kathleen Murphy
(360) 992-2624
kmurphy@clark.edu

Program Name: Math and Natural Science Departments

Parent Organization: Lower Columbia College

Description: Offer courses in standard college curriculum that leads to an associate or transfer degree in various math, science, engineering and health care fields. Provide special course work in math and science for students in early childhood and K-8 programs. Prospective site for regional Science Olympiad. Program of quarterly science/engineering outreach for high school juniors and seniors.

Website: www.lowercolumbia.edu

STEM Fields of Study: ☒ General intro to STEM fields ☒ Bio & environmental sciences ☒ Computer sciences/IT
☐ Energy ☒ Engineering/Technology ☒ Health sciences
☒ Mathematics ☒ Physical sciences ☐ Other

Geographies served: Cowlitz County, Wahkiakum County

Markets Served ☐ Primary Grades ☐ Middle School ☐ High Schools
☒ Post-Secondary students ☐ Teachers ☐ Adults Job Seekers

Targeted Populations outreach targets high school juniors and senior

Contact Information: Geary Greenleaf
(360) 442-2851
ggreenleaf@lcc.ctc.edu

COMMUNITY COLLEGE STEM DEGREES

Two community colleges (Lower Columbia College and Clark College) serve the area with associate and transfer degrees and certificates in the following STEM areas:

- ♦ Accounting*
- ♦ Accounting Technician
- ♦ Architecture*
- ♦ Audio Production
- ♦ Bioengineering/Chemical Engineering*
- ♦ Biological Sciences*
- ♦ Biology Education
- ♦ Business Technology
- ♦ Chemistry*
- ♦ Computer Aided Design
- ♦ Computer Science*
- ♦ Earth Sciences*
- ♦ Economics*
- ♦ Electrical and Computer Engineering*
- ♦ Electronics
- ♦ Electronics Technology - Basic
Computer Hardware Concepts
- ♦ Electronics Technology - Basic National
Electrical Code
- ♦ Electronics Technology - Industrial
Automation
- ♦ Field Survey Technician
- ♦ Environmental Science*
- ♦ Fire Science Technology
- ♦ General Science
- ♦ Geology*
- ♦ Information Technology
- ♦ Instrumentation and Controls
- ♦ Machine Technology
- ♦ Management Information Systems*
- ♦ Math Education*
- ♦ Mathematics*
- ♦ Mechanical, Civil and Aeronautical
Engineering*
- ♦ Natural Resources*
- ♦ Nursing
- ♦ Physics*
- ♦ Physics Education*
- ♦ Pulp & Paper Technology
- ♦ Psychology*

* transfer degrees

WASHINGTON STATE UNIVERSITY-VANCOUVER

WSU-V provides undergraduate and graduate degree programs in the following areas:

Undergraduate Degrees:

- ♦ Biology
- ♦ Computer Sciences
- ♦ Digital Technology & Culture
- ♦ Electrical Engineering
- ♦ Environmental Sciences
- ♦ Mechanical Engineering
- ♦ Nursing
- ♦ Psychology

Graduate Degrees

- ♦ Computer Science
- ♦ Environmental Science
- ♦ Mechanical Engineering
- ♦ Nursing

YOUTH RESOURCES
**STEM Camps, Competitions,
Clubs, & Internships**

REGIONWIDE YOUTH CAMPS, COMPETITIONS, CLUBS (Grades 6 & Up) and INTERNSHIPS (Grades 9-12)

Thanks to the Business Education Compact and OPAS for providing this information.

<http://www.technosciencesupersite.org/index.html>

<http://opas.ous.edu>

STEM RELATED CAMPS

Awesome Academics

Awesome Academic Adventures at Willamette University Salem's very own Willamette University is sponsoring an amazing, stupendous, colossal extravaganza of mammoth proportions for students entering grades 1–8. Each week of camp follows a different theme with fun activities in science and the arts. From bird-watching to printmaking to rocketry, the sky really is the limit. Classes are taught by enthusiastic recent MAT graduates. Camp runs from 9am-3pm. Session start July 9.

Ages: 1st - 8th Grade

Contact: Email Gaelen McAllister or call: (503) 370-6513

OSU Saturday Academy's da Vinci Days Community Art Workshop

Work with an experienced artist and educator to design and build your own piece to be on display for this summer's Da Vinci Days Festival in Corvallis. Using recycled materials, you will design and build a sculpture that will tie in to the theme of this summer's festival. Put your imagination, creativity, and problem-solving skills to the test!

Ages: Grades 5 - 8

Location: Oregon State University, Corvallis, OR

Contact: Email Cori Hall or call: (541) 737-1822

Education Soaring Summer Program

Here's a great program for capable, motivated students in the Portland and Vancouver areas to take up to three classes a day in a variety of interesting classes such as Chemistry, Robotics, Bridge Construction, Algebra, Geometry, Digital Movie-Making and Website Design. Education Soaring offers accelerated learning with intellectual peers in a nurturing social setting.

Ages: K - 6th Grade

Contact: Email kfosback@educationsoaring.com or phone 503-253-3486

Middle School Girls Conference

Coordinated by the PAVTEC Gender Equity Team, the mission of the Conference is to encourage middle school girls to take math, science and technology courses throughout high school. The goals of the Conference are to introduce the girls to female role models in math, science, and technology, and to provide middle school girls with stimulating and exciting experiences related to math, science and technology.

Contact: Michelle Robertson, 503-614-7738, rrobert@pcc.edu

OES Summer Programs

OES has fun-filled day camp programs for kids of all ages (even adults). With passionate and knowledgeable teachers, state of the art technology, and a beautiful campus, how could they go wrong? Some of the classes include Legos®, digital filmmaking, science and nature, Chess Odyssey, and web design. For more information, check out the programs below:

Summer Explorers: For children entering Kindergarten

Summer Discovery: For children entering first through sixth grade

Mini Camps: pre-Kindergarten through sixth grade (Adults may also join the Lego® classes)

Challenge Workshops: For middle and high school students and adults

Ages: Grade Pre-K – Adults

Contact: Email the webmaster or call 503-768-3145 or 503-416-9249

Portland Wiz Kids Camps

Who doesn't want to take a trip to the planet Mars (or the planet Zak, for that matter)? Who doesn't want to design a roller coaster or the next great toy or painting robot? There's something for anyone who loves to tinker, create, or imagine at one of the many Whiz Kids camps held around the city of Portland.

Ages: 1st - 8th Grade

Contact: visit the Portland Wiz Kids Contact Page

Saturday Academy Camps

Where would we be without Saturday Academy? Well, for one, we would be short by ten—yes, you heard me right—ten camps. From the miniature world of nanotechnology to the expanse of Puget Sound, Saturday Academy explores the widest range of scientific exploration. Don't take our word on it. Just take a look at some of the following camps they offer:

Animal Camp: Visit a farm, the zoo, and wildlife center to observe animal behavior

AWESEM Camp: Girls! Visit labs, scientists, and engineers, and explore life as a woman scientist

Dragonfly Science Camp: Be prepared to think, act and breathe like a real scientist because we are about to undertake a huge amount of exciting learning in our week. This class is for girls only.

Engineering Camp: Explore just about every form of engineering imaginable through labs, workshops, tests, visits, and more

Math in Summer: Hot Numbers: explore math through games, history, stories, art, building projects, math debates and even some math flicks

Nanotechnology: conduct experiments and visit research labs and businesses that are big in the way they think small

Oceanography Camp: Spend a week experiencing first hand the latest in ocean science technology

Science Excursions: Go to the best lab of all: the great outdoors, and study Ape Caves, Mt. Hood, the Coast, and more

Super Science Academy: Here you get the choice between studying physics and chemistry or biology, paleontology and earth science while conducting experiments

Marine Campout: San Juan Island Adventure: You'll enjoy exploring one of the most beautiful spots in the country through camping, hiking, kayaking, and whale and river otter watching

Summer Chess Camps

If you don't know the difference between a rook and a knight or you're the next Bobby Fischer, you'll love joining a summer chess camp. Camps range from novice, to intermediate, to advanced. You'll get to study chess and its strategies, and you'll get lots of opportunities for practice and competitions.

Ages: 7 - 19 years old

Contact: Chess Master Pete Prochaska (503) 504-5756, Tony Hann (503) 880-0581 or email camps@chessodyssey.com

Summer Enrichment Program (SEP)

You'll never be bored at this camp at the University of Oregon. It's aimed at students who want and can handle a challenge. The Summer Enrichment Program has classes in all subject areas, not just science. It's jam-packed with all kinds of classes like "Ecosystems of the Willamette Valley," "It's Not Easy Being Green: A lab class about plant cells, genetics and photosynthesis," or "Introduction to Calculus." [note: these are just a sample of previous year's classes to show you the types of classes offered]. There are also many other fun activities, events and get-togethers like swimming, canoeing, arts & crafts.

Ages: 6th - 10th Grade

Contact: Email sep@uoregon.edu or call: Cheryl Hunter, Program Coordinator, at (541) 346-1405

Science Camps

Audubon Society Summer Camp

If you love getting out into nature, and I know you do, then Audubon Society's Summer Camp is your ticket out of the summer doldrums. Choose from any number of week-long experiences, excursions, and Mobile Adventures. Some of the programs to choose from are: Junior Wildlife Vet, Waterfallers, Caves and Canyons, Stayin' Alive, Tide pool Biology, and much much more!

Ages: 1st - 12th Grades

Contact: Visit the registration page, Email: general@audubonportland.org, or Phone: 971-222-6120 to reserve a space

ExxonMobil Bernard Harris Science Camp

Full scholarships are available for 48 youth from underserved areas or from populations traditionally under-represented in science and engineering fields. The scholarship covers room and board and instruction. The scholarship application is available at <http://oregon.4h.oregonstate.edu/summer-science-camp>. The application deadline is April 15.

Ages: 6th - 8th Grades

Contact: Email: fourhscicamp@proaxis.com or Phone: 541-737-4081

Mad Science Summer Camps

Mad Scientists are not just a thing of the past in campy movies. In fact, you too can become a mad scientist at a Mad Science® Summer Camp near you. Learn about robotics, forensics, rocketry, the science of sports, and astronauts, just to name a few.

Ages: K - 8th Grades

Contact: Email: info@madscienceportland.com or Phone: 503-230-8040

OMSI Science Camps

You could either learn about volcanoes, oceans, deserts, wildlife, and the stars by reading, surfing the internet, listening to your science teacher, or even visiting an exhibit at a museum somewhere, but if you really want learn, nothing beats getting outside and exploring for yourself. OMSI Science Camps are located all around the Pacific Northwest, so you can be right in the heart of what you want to study—from the ocean beaches, to the Cascades, to the high desert, and more.

OMSI camps are each one week long and include a variety of opportunities to explore and play. View all the camp details in the OMSI Science Camps and Classes brochure.

Ages: 2nd - 12th

Contact: Email camps@omsi.edu or call (503) 797-4662

Oregon Coast Aquarium Camps

If the heat is getting to you, then you need to make a break for the Oregon Coast Aquarium for a week and go to one of their many sea camps. Get an opportunity to get your hands wet by interacting with creatures, exploring tide pools, or even by dissecting a shark. There is something for every age and interest (aquatically speaking).

Ages: From 2 to 18

Contact: Call 541-867-3474 ext 5301

Hatfield Marine Science Center Summer Camps

Is your Science textbook uninteresting? Is taking a trip to an Aquarium not quite exciting enough? How about getting your hands wet and conducting research sound to you? From taking core samples in order to study the impact of the last tsunami, to constructing remotely operated vehicles, to conducting an autopsy on a seal, you will never be bored at a summer science camp through the Hatfield Marine Science Center.

Take your pick of one of these many exciting day camps:

Dive Into Fish

How do fish communicate? What techniques do scientists use to study fish? You will learn the answers to these questions and more as we delve into the incredible world of fish! Campers ages 13-15 will learn what fish need to survive and how to set up and take care of an aquarium. We will investigate current fisheries research at Hatfield Marine Science Center and visit the Oregon Hatchery Research Center. Campers will learn how and why researchers collect data and even do some sampling of their own in this fascinating camp!

Ocean Explorations

Explore the ocean environment from the surface to the deep in this hands-on camp for 13-17 year olds. Campers will learn about technology and techniques used in ocean exploration and have the opportunity to design their own ROV (Remote Operated Vehicle) for observation and data collection. Several fieldtrips, including one to the OSU Wave Energy lab will occur.

Animal Adaptations

This hands-on day camp will introduce campers to the plants and animals that live in the marine habitats of the central Oregon coast. With a different outdoor field adventure each day, campers will investigate life on the rocky shore, coastal forest, marsh, mudflat, and sandy beach. Participants will work in teams to collect live specimens and to build appropriate habitats in HMSC's wet labs.

From the River to the Sea

Campers will discover characteristics that help crustaceans survive by actively exploring tide pools and mudflats, collecting and observing plankton and creating a mini-exhibit about crustaceans. Participants will work directly with scientists to conduct research on crustaceans and will take part on one of HMSC's most popular activities' crab races.

Bayfront Quest

Campers will explore the estuary, rocky shore, sandy beach and the coastal forest. In teams, they will collect animals and build habitats in HMSC's wet labs, demonstrating their understanding of habitat and community.

Habitat Hunt

Our explorations will take us on a hunt for all the organisms that just can't live without each other. While exploring the rocky intertidal, estuary, sandy beach and the coastal forest of Cape Perpetua, campers will be introduced to the plants and animals that live in symbiotic relationships. Campers will also participate in a symbiotic scavenger hunt.

Ages: 8 – 17

Contact: Email Maureen Collson or Phone: 541-867-0159

Outdoor Science School (OMSI)

You provide the group, and OMSI provides the facilities, instructors, and schedules in the best science lab of all: the outdoors. Camps specialize in one of the five following subjects: Arid Lands Ecology, Coastal Ecology, Forest & Stream Ecology, Fossils & Volcanic Geology.

Ages: All ages

Contact: sciencecamps@omsi.edu or call (503) 239-7824

OSU Saturday Academy's Science Camp

Explore areas of science that you may not get to see in school. Hands-on investigations, demonstrations, and experiments will ignite creativity and critical thinking in a journey through scientific discovery. Topics will span the scientific disciplines and will include physics, chemistry, biology, and geosciences. Have an opportunity to work with science professionals and OSU students in laboratories and classrooms.

Ages: 6th - 8th

Contact: cori.hall@oregonstate.edu or call 541-737-1822

Summer Science Camps

OSU is looking for 48 exceptional future scientists who will be entering Middle School this fall, and they're willing to pay for the two exceptional weeks of science camp this August. You'll learn all kinds of topics on science, engineering, math, and more as you work in labs, visit professors, travel to the coast and the Cascades. Apply by May 25th, 2007 if you wish to go. OSU will select students who are committed to academics with teacher recommendations. They are particularly looking for women and those whose populations are not typically represented in science as well as students from rural areas.

Ages: Middle School (entering 6-8 in the Fall)

Contact: Email Robin Galloway or call (541) 967-3871

Evergreen Aviation Museum Summer Camp

Attention all future pilots and rocket scientists and anyone else who is as thrilled at flying and planes as I am. If you want to visit Seattle's Museum of Flight or build your own RC aircraft and model rocket, then you must head over to McMinville's very own Evergreen Aviation Museum - home of the Spruce Goose - this summer and check out own of their summer camps

Ages: 5th - 12th Grades

Contact: Email education@sprucegoose.org or call: (503) 434-4005

Saturday Academy Math Camps

Saturday Academy is the place to sharpen your math skills over the summer. They've got day camps in locations all over the Portland area. Below are just samplings of the math day camps that Saturday Academy offers (note: some camps are full, so please double-check the master list on available seats)

Fantastical Math

Finding Fibonacci

Math Gems

Math Help for the SAT

Math & Architecture

Math in Summer: Hot Numbers

Space Math

and many more (just look at the master list of SA summer classes)

Ages: 2nd - 12th grade

Technology Camps

AWSEM Camp

The most awsem club is now the most awsem camp (please pardon my pun). Girls, here's your chance to enjoy a week with other girls learning from the top female scientists and engineers in the area. You'll get some hands-on activities, a design competition, and a variety of visits around Portland.

Ages: 6th - 8th Grade

Contact: Email [Gaelen McAllister](mailto:GaelenMcAllister@gmail.com) or call: (503) 370-6513

Cybercamps at Lewis & Clark College

Their philosophy says it all: "Human brains learn more when they're having fun." With that kind of philosophy how could you not have fun and not learn a ton? I don't know either. If that's not enough to convince you, how about the fact that it's called, *w00t camp*? Let's put it this way: they have cutting-edge, hands-on technology using a state of the art computer (for each camper) and the latest in leading-edge software (like Flash, C++, and Photoshop). You'll create games and compete in tournament gaming competitions, edit your own videos, and modify popular PC video games. 'Nuff said? I thought so.

Ages: 1st - 10th Grade

Contact: Call toll free: 888-904-CAMP (2267)

Fair Play: Design & Discovery

Fair Play is a two-week day camp program for girls in 7th - 10th grades designed to introduce them to the world of engineering. Girls do hands-on engineering activities, develop an independent project, attend "behind the scenes" tours of local companies, and meet women in engineering careers. After the camp, girls may continue their project with a six month mentorship experience with a working engineer. Fairplay also has three residential camps: one for each age range. There is Bridge into Engineering for Brownies, Fly into Engineering for Juniors, and Jump into Engineering for Older Girls. All residential camps are located in the beautiful Camp Arrowhead.

Ages: Girls 7th - 12th grade

Contact: seamanj@juliette.org (503) 598-6519

GATEway to Engineering

Girls! Technology, math, and science has never been such fun. Get some hands-on experience with engineering and complete a project of your own design.

Ages: 3rd - 8th grades

Contact: Call 503-788-6266

OES: Technology and Digital Media Challenge Workshops

Have you been dying to get some hands-on experiencing making a Flash project? How about edit your own digital movie with Final Cut Pro? Design a web page with Dreamweaver? or 3D modeling with Bryce? These are not mammoth 30 person classes. No, they are small workshops (only between 8 and 16 students).

Ages: Grade 6 to Adult

Contact: Call the Summer Programs Office at 503-768-3145

OSU Saturday Academy's Engineering Camp

Students will spend a week exploring the many careers available in the field of engineering. Hands-on activities each day will feature bioengineering, chemical, civil, environmental, electrical, industrial manufacturing and mechanical engineering. Students work in labs and classrooms as they design, construct and test models.

Ages: 6th - 8th Grade

Contact: Email Cori Hall or call 541-737-1822

SESEY: Summer Experience in Science and Engineering for Youth

SESEY is primarily for high school girls and ethnic minorities traditionally underrepresented in science and engineering. Students come to the OSU campus for a one-week residential summer camp and are paired with a faculty mentor in engineering for a mini-research project in areas such as micro scale technologies, plastics recycling, drug formulation and delivery, bioprocessing, microelectronics, and environmental engineering. There are also group learning activities such as computer instruction, communication skills, field trips and social activities. Students live in OSU housing, so they receive a complete college experience.

Ages: 9th - 12th grades

Contact: Visit the contact page for more information.

COMPETITIONS

INTEL Northwest Science Expo

This is it: the end all be all science and engineering fair for the state of Oregon. This is the place where you can see how your research and engineering skills stack up against the rest of the state in one of 16 different categories, from Behavioral and Social Sciences to Zoology.

Ages: 5th - 12th Grades

Contact: Email nwse@pdx.edu or call: (360) 696-9939

Engineering Education Service Center (EESC) - Poster Contest

"Engineers Make a Difference" is the theme for the Engineering Education Service Center's Fall 2008 Poster contest. This year's winning entry can be found in a display of inspiration, excitement, wonder and curiosity. Posters should be fun, motivational and inspire students to pursue a degree in engineering, technology and/or science.

Ages: 9th - 12th Grades

Contact: Email questions@engineeringedu.com or call: 541-988-1005

Math Counts

Calling all number crunchers, derivative doctors, theorem provers and partakers of polynomial peculiarities! If you're good with numbers, why not impress your friends and teachers as a you train to compete as a mathlete in Math Counts. In February, you'll compete in a regional competition, and if all goes well, you'll move on to the state competition and beyond. Hone your math skills and be recognized as a math force to be reckoned with.

Note: if you live in the Klamath region, be sure to check out information on MATHCOUNTS from the OIT website; otherwise, you will need to check with your math teacher for more information, or take a look at the official Math Counts web site.

Ages: 7th & 8th Grade

Contact: Email precoll@oit.edu or call: (541) 885-1815

Oregon Invitational Mathematics Tournament

The Oregon Invitational Math Tournament hosts the best student mathematicians of the state in one of six levels: pre-algebra, algebra I, algebra II, geometry, advanced I (precalculus) and

advanced II (calculus and above). Winners receive advanced graphic calculators and the top winner will receive a scholarship as well.

Ages: 9th - 12th Grade

Contact: Email Joe Ediger

Pentagames

Math has never been so much fun! Math Tac Toe, 35-minus, CR2 (Compare, Revise, Revise), Solve That Problem and the Math Relay all combine to form the Pentagames, the wackiest combination of math and sports competition in the state of Oregon.

Ages: 7th - 8th Grade

Contact: Call: Cheryl Klampe-Van Hess, (503) 749-1918

Math League Contests

Check with your math teacher to see if your school already competes against other schools in our league, if not direct your teacher to the website, and see if you can get enough students to participate in this contest.

4th and 5th Grade: Each contest (30 multiple-choice questions in 30 minutes) covers basic 4th and 5th grade topics

6th - 8th Grade: these contests (40 multiple-choice questions in 30 minutes) cover a wide range of topics appropriate to the grade level. Students compete with other students, and schools compete with other schools in their league

Algebra Course 1: This contest (30 multiple-choice questions in 30 minutes) covers basic to difficult algebra skills for first-time Algebra students

High School: In the High School division, students compete in six separate contests (30 multiple-choice questions in 30 minutes) between October of 2006 and April 2007

Ages: 4th Grade - High School

Contact: Talk to your Math teacher or email Mathematics Leagues

Science Bowl

Science Bowl is a one-day tournament, a one day science extravaganza as it were. Competing in a team of four, your knowledge of science, math, computer technology, and current events will be tested in a rapid-fire question and answer tournament against other schools and clubs in your region.

Ages: 6th - 12th Grade

Contact: Email Jason L. Hairston or call: (360) 418-2906

Oregon ETIC Video Challenge

GetReal.ous.edu presents a video competition about engineering and technology. Students need to submit videos that answer the questions: Why study Computer Science? and Why study Computer Science in Oregon? For more information, go straight to the contest site at the Get Real website

Ages: 9th - 12th Grade
Contact: Email GetReal Contest

Oregon Robotics Tournament and Outreach Program

Students! Design, build and program a robot on a team with your friends! No experience is needed! Three levels of programs:

FIRST LEGO League 4th - 9th Grade

FIRST Tech Challenge 7th - 12th Grade

Each team has 4 to 10 members. Team members can be designers, builders, programmers, documenters, and team leader. Starting in September, each team will design their robot to solve this year's challenge. Be sure and check out the ORTOP web site for detailed program information.

Ages: 4th - 12th Grade
Contact: Send an email message to questions@ortop.org or call 503-821-1136

FIRST Robotics Competition Pacific Northwest Regional

Whoever said engineers don't live exciting lives? Try telling that to NASA, or a genetic engineer, or even Disneyland. If you don't believe me, ask any one of the 20,000 participants of FIRST from all over the world. FIRST is a high octane, adrenaline pumping competition where you and a team of fellow high school students, coaches, and mentors are given a kit of materials, a set of game rules, and six weeks to design and build radio-controlled robots that will compete in a sports-based competition.

Ages: 9th - 12th Grades
Contact: Email robotics@imtech-or.com or call: 541-757-2047 x202

Oregon Game Project Challenge

Attention all future game developers and problem-solvers! Now you can learn to design an original game using Gamemaker, a fun, free, and easy to use tool that creates amazing, interactive games. Each year, at the end of February, a theme and challenge is announced, and teams of 4 to 7 have until mid-May to design their games and present them at the competition. No experience is necessary.

Ages: 7th - 12th Grades
Contact: Email ogpc@techstart.org or call: 503-228-5440

Willamette-TechStart Programming Contest

High school students from around the state will compete in small teams to solve challenging problems, using only a single computer, their programming skills and their wits to succeed.

Ages: 9th - 12th Grades

CLUBS

AWSEM: Saturday Academy's Advocates for Women in Science, Engineering & Mathematics

Girls! Have fun with math and science, meet other girls interested in the same subjects, and learn about amazing careers by experiencing actual science fields.

Grades: 6th - 12th

Contact: Email: awsem@saturdayacademy.org or Phone: 503-725-2337

Boys and Girls Clubs: Intel Power Hour

Intel Power Hour is a program operated within five Boys & Girls Clubs of the Portland Metropolitan Area. These five clubs reach over 10,000 kids per year. "Intel Power Hour" program is designed to use incentives that encourage completing homework, educational enhancement and a general love of learning. Each Club has computer work stations, upgraded by Intel, and uses volunteers to tutor kids by assisting with homework and other educational assignments.

Locations:

Blazers Club

5250 NE MLK Jr. Blvd, Portland, OR 97211

Ages: 6 - 18

Contact: Willie Fuller (503) 282-8480

Hillsboro Club

560 SE 3rd Street Hillsboro, OR 97123

Ages: 6 - 18

Contact: (503) 640-4558

Jack, Will & Rob Boys & Girls Club

2033 NE Ione Street Camas, WA 98607

Ages: 6 - 18

Contact: (360) 817-2595

Meyer Memorial Club

7119 SE Milwaukie Ave. Portland, OR 97202

Ages: 8 - 18

Contact: Call (503) 238-6868

High Tech Explorer Post

All kids in Intel country out in Washington County are invited to join the High Tech Explorer Post. Get your hands inside of computers and help rebuild surplus PCs for charity. Also, you can learn all about high tech careers from the professionals themselves.

Ages: 9th - 12th Grade

Contact: [Janet Rash](#)

MESA (Mathematics, Engineering, Science, Achievement)

Get the support you need for math and science-based studies that will prepare you for college and beyond. Advisors will work with you to not only get the help you need for your classes, but help in your study skills and SAT preparation. Through MESA, you'll have access to a counselor, specific workshops, college career preparation, and various competitions and much more.

Ages: 6th - 12th Grades

Contact: Email [Corinne Hickey](#), phone 503-725-4665, or fax 503-725-4680

OMSI Science Clubs

Energize your school's science club with the power of OMSI. You just need to come up with the fees and a teacher to sponsor the club and be the contact with OMSI, and OMSI will provide the science teacher, materials and supplies, and help with scheduling and registration. Not only will you get six weeks or more of spectacular experiments and activities, but you're bound to love the new, rich taste of wholesome science goodness.

Ages: K - 12th Grades

Contact: outreach@omsi.edu or call: (503) 797-4649 or (888) 674-OMSI

SMILE: Science & Math Investigative Learning Experiences

Make many friends and have fun learning about the world around you through fun science activities, trips, competitions, and more. From elementary school through high school, SMILE will provide a group of like-minded friends and open up doors to places you've never thought of going.

Ages: 4th - 12th Grades

Contact: Go to the website to [find a club near you](#), phone: 541-737-2388, or fax: 541-737-3554

Tech Wizards

Calling all Latino youth! **Web Wizards is now Tech Wizards**. Not only has the name changed, but they've added GPS (Global Positioning Systems) and GIS (Geographic Information Systems) technology to bring you well into the 21st century. At Tech Wizards, you can get computer and web skills from professional Latino adults. You'll gain great life skills and preparation for a professional career. Web Wizards also gives you a chance to give back to your community. For the high school students, as you learn from your mentors and gain computer skills, you can then begin being a role model for younger middle school students. You can also donate your time at local libraries by providing assistance to mono-lingual Latino parents.

Ages: 7th - 12th Grade

Contact: call the Washington County 4-H Office: 503-725-2110

High School Internships

Saturday Academy's Apprenticeships in Science and Engineering

Learn first-hand about science or engineering as a career. Students assist scientists and engineers in a variety of fields for eight weeks during the summer. Students are able to help with real-world projects while being an integral member of a professional team. The benefits are many: you gain valuable pre-professional experience, you get to test out a particular career first-hand and see if it's what you want to pursue, and you have the satisfaction and confidence from having completed one or more projects or contributed meaningful work to a larger, on-going project.

Ages: 9th - 11th Grades

Contact: Email ASE@pdx.edu (503)-725-2334 or [Molly Schmitz](#) (503) 725-2340

The Business Education Compact

Get a flavor for working in the real world, make some great connections, have something to put on your resume, and get paid for doing it. There are many positions out there, such as web design, administrative assistance, network support, marketing, community relations, hardware maintenance, software development, and more.

Ages: 15 - 18+

Contact: Email hr@becpdx.org or call: 503-646-0242 x29

NASA's INSPIRE

NASA invites you to join an online community of like-minded students interested in science, technology, engineering and mathematics. Activities include participation in video teleconferences

with NASA scientists, design competitions, and learning modules. The online community allows students to interact with other students with similar interests, to ask questions and to share knowledge. Once connected, you'll get a chance to compete for a unique summer experience with NASA.

Ages: Grades 9-12

Contact: Email Mr. Steve Chance or call 321-867-4194; www.nasa.gov/education/inspire

Metro Regional Parks & Greenspaces Volunteer Program

Would you like to lead nature tours? maintain and improve regional parks? Metro will give you the training and the opportunity of a lifetime.

Ages: Mature High School Students and Beyond

Contact: Fill out the [Volunteer Interest Form](#) and Submit it, email metroparks@metro-region.org, or call (503) 797-1850.

Zoo Teens

If you aren't sure what to do next summer, and you want to help make a difference while gaining valuable work experience and expand your resume, you need to become a ZooTeen volunteer. With the ZooTeen Program, you can get behind the scenes at the Zoo, gain great work experience, develop your leadership skills, and help with the care and feeding of the animals. Applications are accepted between January and March.

Ages: Students entering 9th - 12th Grade

Contact: Email ZooTeen@oregonzoo.org, or call the ZooTeen office at 503-220-2449