

Oregon Universities' Initiatives in AEED Opportunity Areas: Regional Universities and OIT

Opportunity Area	EOU	SOU	WOU	OIT
Nanoscience and Microtechnologies	<ul style="list-style-type: none"> • Collaboration with OHSU – OGI on proposed ETIC funded enhancement of biomedical/nanoscience research on EOU campus. • Discussing collaborations with Pacific Northwest National Laboratory (PNNL) 	<ul style="list-style-type: none"> • Collaborative Materials Science program with UO, lead faculty member will start July 2005. • SOU Ferroelectrics Research Project (NSF funded) – internationally known; includes opportunities for undergraduate research and publication 		<ul style="list-style-type: none"> • Oregon Renewable Energy Center (OREC) – opportunities in microsensors for “smart energy” and ground source heat pumps, wireless sensor deployment in healthcare
Information Technology	<ul style="list-style-type: none"> • EOU and PSU’s Engineering program will explore Computer Science articulation. 	<ul style="list-style-type: none"> • Computer Science Department: data mining, computer security, HIPAA, computer forensics • Focus on cyber security • RAINS-NET steering committee (Regional Alliances for Infrastructure and Network Security) • Spatial data structures – patent just submitted 	<ul style="list-style-type: none"> • Computer Science Division collaborates with ETIC to double the number of graduates in IT • Seniors in Computer Science are required to complete an internship through which they work directly with Oregon employers to enhance productivity. 	<ul style="list-style-type: none"> • B.S. in IT – expanding distance delivery of bacc. IT degree and a minor in collaboration with EOU. • Collaborations with high tech and healthcare industries to customize educational programs to meet special needs and provide access through web-based delivery. • Ongoing IT initiative in ETIC to double IT grads.
Sustainability & Renewable Energy	<ul style="list-style-type: none"> • Science Center hosting Oregon Department of Fish & Wildlife (ODFW) – research on water use and sustainability • ODFW partnership with Confederated Tribes of the Umatilla Indian Reservation on fish pathology research 	<ul style="list-style-type: none"> • Member of Pacific Northwest Cooperative Ecosystems Studies Unit (CESU) – 3 research grants from this collaboration • Southern Oregon Institute for Environmental Studies – aligns SOU’s sciences, social sciences and public policy programs with the character and needs of the region • Planned Sciences addition to include Health-Technology-Environment Center • Organic Spectroscopy Laboratory and Biotechnology 	<ul style="list-style-type: none"> • Natural Science Division maintains collaborative teaching and research efforts with the Luckiamute Watershed Council. • Environmental Science Institute offers research and teaching opportunities throughout Oregon and abroad. 	<ul style="list-style-type: none"> • Oregon Renewable Energy Center (OREC) – “smart energy” (convergence of telecommunications, computing and energy); wind energy pricing modeling for City of Portland; residential building energy performance monitoring; innovative building energy systems; diesel electric hybrid vehicles; fuel-cell powered vehicles; electricity generation using low temperature waste heat; combined solar panel-inverter “appliance” systems.

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		<p>Research Center – received grants of >\$750,000.</p>		<ul style="list-style-type: none"> • Geo-Heat Center (John Lund, Director) – geothermal energy applied research since 1975; collaborations with Oregon Department of Energy and international associates.
<p>Natural Resources (Agriculture, etc.)</p>	<ul style="list-style-type: none"> • New Science Center hosts agriculture-related disciplines in partnership with OSU- Agriculture Science Program and Oregon Dept of Fish & Wildlife research unit, providing potential for strong collaborations • Site for ODFW research on salmon recovery • Desire to better connect to Agricultural Experiment Stations and Extension Programs in the region • Interest in enhancing agriculture, forestry and natural resources curriculum and research program in partnership with OSU • New Natural Resources degree will be offered beginning Fall 2005 	<ul style="list-style-type: none"> • Research on viticulture and climatological conditions (Greg Jones) – internationally recognized; developed a model that assesses a particular plot’s promise as a vineyard. • Grants from Oregon Wine Board to establish multiple varietal reference vineyards in Umpqua and Rogue/Applegate valleys. 	<ul style="list-style-type: none"> • Service Learning project in Precision Agriculture resulted in development of a remote sensing application for a berry grower in Oregon who needed help with his operation in Mexico 	<ul style="list-style-type: none"> • Klamath Basin Water Digital Library – repositioning for water issues and development of the upper and lower basin of the Klamath Waterbed.
<p>Neuroscience & Biomedical Research</p>	<ul style="list-style-type: none"> • Partnership with OHSU on biotechnology research in new Science Center 	<ul style="list-style-type: none"> • Research areas: biotechnology, microbiology and health, environmental health, laser deposited sensors, nutrition and health • Sophisticated biotechnology research instrumentation • Area attracts small businesses related to healthcare (e.g., BioMed Diagnostics) • Center for Rural Nursing Research 	<ul style="list-style-type: none"> • WOU Neurocognitive Laboratory houses a 32-channel EEG/ERP system that records brain activity of human subjects during cognitive and behavioral tasks. 	

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Healthcare Workforce	<ul style="list-style-type: none"> • OHSU Nursing program on EOU campus and throughout the region via federally supported Frontier Delivery Program • OHSU research facilities in new Science Center • Joint program in Dental Hygiene, with OIT and ODS 	<ul style="list-style-type: none"> • Emphasis on liberal arts to provide model integration of nursing & lib arts • Pre-Nursing curriculum in anatomy & physiology; microbiology; chemistry, nutrition, human development • Participating with regional Healthcare leaders in Jefferson Regional Health Alliance to improve quality and affordability of healthcare in Southern Oregon. • Added minors in Psychology and Spanish for Nursing students • Mental Health Counseling graduate program is nationally accredited; graduates are eligible for licensure in 48 states • SOU has pre-professional programs in dentistry, medicine, chiropractic medicine, dental hygiene, medical technology, occupational therapy, optometry, physician assistant, pharmacy, physical therapy, podiatry, and veterinary medicine. 	<ul style="list-style-type: none"> • WOU has pre-professional programs in dental hygiene, dentistry, medicine, nursing, occupational therapy, optometry, physician assistant, pharmacy, physical therapy, podiatry, and veterinary medicine. 	<ul style="list-style-type: none"> • Center for Health Professions: OIT – Radiologic science, nuclear medicine, diagnostic medical sonography, vascular tech, dental hygiene, health sciences, respiratory therapy OIT/OHSU – Clinical laboratory science, emergency medical technology OHSU – Nursing • Design phase for a \$10 million facility to enhance education capacity for programs in Allied Health. • Partnerships with community colleges, hospitals, and equipment vendors to maximize efficiencies for resources and continuing professional development • Digitization in health care
K-12 Education	<ul style="list-style-type: none"> • EOU has regional programs in teacher licensure aimed at providing access for those who are time and place bound. • Graduate programs in special education, literacy, and English for Speakers of Other Languages serve the special needs of rural Oregonians. • EOU has, over the last decade, developed several science education grants with NSF, 	<ul style="list-style-type: none"> • Remote location and growing demand for school administrators putting pressure on SOU and RCC to develop SOU-based doctoral program. • School of Education will offer an Initial Administrator License (IAL) program, which may be completed as part of a master's degree, or following the completion of a master's degree. 	<ul style="list-style-type: none"> • Teaching Research, in collaboration with College of Education – national reputation; multi-disciplinary program of research, evaluation, program/model development, training, technical assistance, direct service. • State level teacher quality and teacher effectiveness projects • “SimSchool” – funded by U.S. Dept of Education – to refine and disseminate an interactive 	<ul style="list-style-type: none"> • Pre-college programs • Support for development of a high school with a technology focus sponsored by Klamath Falls City Schools

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	<p>DOD, DOE, and ODE to develop science curriculum and teacher inservice.</p> <ul style="list-style-type: none"> • EOU has strong ties to regional K-12 • EOU collaborates with Lewis and Clark College to help serve rural Oregon with administrator licenses • EOU is a leader in the State in Reading and Literacy Education 		<p>simulation tool to help prospective teachers practice making instructional decisions and assess their ability to impact student learning. Based on Teacher Work Samples methodology.</p> <ul style="list-style-type: none"> • Contextual teaching and learning – innovative partnerships with Ohio State University and George Washington University • Research in Traumatic Brain Injury – Oregon TBI consulting team; Oregon Brain Injury Resource Network; studying resilience in students with TBI • Teaching Research and the College of Education are providing scholarships to future teachers who are willing to work in the schools with the highest needs and for teachers currently working in high need schools to support coursework in specific areas such as special education, bilingual/ESOL, and literacy. • College of Education and Division of Extended Programs collaborate to offer external teacher licensure degree and endorsement programs • Participate in OUS CREADE program to provide flexible endorsement program in reading via online courses from multiple institutions 	

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Interdisciplinary and Cross-disciplinary; Other	<ul style="list-style-type: none"> • New Science Center will serve as catalyst and host for collaborations across disciplines and sectors – in agriculture, natural resources, health, biotechnology • Nearly all of EOU’s graduates participate in one or more of the Cornerstones of Learning. This includes, service learning, undergraduate scholarship/creative activities, an internship and a multicultural/international experience. 	<ul style="list-style-type: none"> • Strategic initiatives for development of the study of Family Health and Well-being, Global and Multicultural studies, and Environmental studies. • Linkage of First Nations Studies curriculum across Social Science disciplines. • Proposed linkage of International Studies curriculum across Social Science, Arts & Letters, and Business disciplines. 	<ul style="list-style-type: none"> • Regional Resource Center on Deafness – oversees Region X continuing ed opportunities throughout Alaska, Idaho, Oregon, & Washington for interpreters; provides consultation and training for needs of deaf and hard-of-hearing individuals • Service Learning undergraduate applied research projects provide business performance enhancements for private, public, and nonprofit organizations. • Regional program in Fire Services Administration that combines liberal arts minor in bachelor’s degree. Program partners with Oregon community colleges offering AA in fire services. 	<ul style="list-style-type: none"> • Active faculty collaborations across disciplines (e.g., computer technology, information technology, health sciences, and renewable energy. Inter-disciplinary capstone captive and senior projects in engineering and health technologies) • Active program in pre-college initiatives and collaborating with Saturday Academy and OSU Extension.