

**Engineering and Technology Industry Council
New Initiative Proposal
Biennium from July 1, 2005 to June 30, 2007**

Campus: Western Oregon University (WOU)

Contact Name: John Marsaglia / Bob Broeg

Date of Submission: April 2, 2004

Summary of Proposal: New funding for two (2) projects:

**New option for existing CS degree,
Computer Science Training Center for K-12 educators.**

Goals

- 1.) To integrate a new option into the existing WOU Computer Science major. This will involve an increase in faculty (.5FTE) and some additional computing equipment. This new option is intended to increase student enrollment and to offer a new undergraduate degree option.

- 2.) To utilize ETIC funds to expand the educational opportunities for K-12 educators that currently exists by the collaboration of; the Software Association of Oregon (SAO), the Computer Science Teachers Association (CSTA) and the Western Oregon Computer Science Division. The outcome would be to establish Western Oregon as the center for computer science training for K-12 educators.

Investment Description

- 1.) An assistant professor (1 FTE) is approximately \$60,000 per year including benefits. At a .5 FTE assignment the cost would be \$60,000 in salary for the biennium. Additional lab equipment would be a cost of \$3,000 per workstation, with 10 new stations. Total cost for the new option would be \$90,000 for the biennium.

- 2.) For the past three years SuperQuest (see attached) has been hosted at Western Oregon University. The primary funding source for SuperQuest has been the SAO. An enhancement in funding; will increase the number of participants able to attend the regularly scheduled SuperQuest session (last week of July—first week in August), will provide alternative dates for additional SuperQuest sessions, will allow short courses to be offered both at the WOU campus and at other remote sites. Funding for these enhancements would total \$110,000 for the biennium.

Results

- 1.) The computer science option will provide a new and unique undergraduate degree for the OUS system. This degree option will be a feeder program into advanced degrees that are currently offered at other OUS institutions. Those who choose to go directly into an industry position should have good employment opportunities. The metric for this degree option is to have 15 or more majors in the program by the end of the biennium. That number of majors would demonstrate the viability of the program and allow WOU to then fund the faculty position and support the degree option.

2.) SuperQuest is the preferred format for currently employed educators that wish to enhance or create a new skill in the computer sciences. The SuperQuest instructors provide materials that are learned by the educators and then become materials for use in their classrooms. The courses of SuperQuest are designed by CSTA. The membership of CSTA, Computer Science Teachers Association, includes university professors and K-12 educators. If funding is realized, then attendance should be more than doubled. Instead of serving approximately 55-60 teachers in the one SuperQuest session, there should be a count in excess of 120 participants. Continued collaboration with SAO is necessary for the success of this project.

Proposed Investment and Private Support Forecast (\$M)

	7/1/05- 6/30/06	7/1/06- 6/30/07	Total
Proposed OUS investment (\$M)			
Project 1 New degree option in CS	0.060	0.030	0.090
Project 2 Center for CS training K-12	0.055	0.055	0.110
Subtotal	0.115	0.085	0.200
Expected private support (\$M) (2)	0.050	0.050	0.100
Total (\$M)	0.165	0.135	0.300
New Faculty Supported (FTE) (3)	0.5		0.5
Notes:			
(1) Use as many lines as you need to give the proposed new investment(s)			
(2) Consistent with ETIC Private Support Policy dated 1-23-02.			
(3) To be hired with ETIC funds during 2005-2007 biennium.			

Metrics Forecast:

	Baseline	Projected			
	AY 99	AY06	AY07	AY08	AY09
Project 1 New degree option in CS (new students)	0	5	15	20	22
Project 2 Center for CS training in K-12 (attendees)	0	120	120	120	120
Notes:					
(1) List metrics including those relevant from Core Proposal template and others relevant to your proposal. If you use a metric that is also covered in your Core Proposal, the forecasted results that you give above should be the combined result of your Core Proposal and the investment described in this document.					

TIPS - Teacher/Industry Partnership for Software

Most of us are aware of the state of Oregon's continuing educational funding crisis. But there is an even bigger crisis looming that is affecting the future of our industry as a whole. It is the low number of high school students choosing careers in software engineering and related disciplines and the lack of computer science courses and training for teachers. Computer science classes are becoming electives in many districts and electives are the first to go when budget axes begin to fall. The SAO's Teacher Industry Partnership for Software program (TIPS) is part of the solution!

Two years ago, the SAO conducted an in-depth survey of the state of computer science education in Oregon high schools. Some of the key findings of the survey were:

- Almost half the schools surveyed did not teach any computer programming classes at all
- Of the technology related courses being taught, less than 50% involve any programming
- Of the total number of students enrolled in the schools who answered the survey, only 11.3% actually took a computer technology class during the 2000-2001 school year that was not a business application or keyboarding class.
- Only 6% of the schools responding had a dedicated staff member who teaches computer programming classes.
- A majority of teachers want more professional development opportunities, more participation by Industry and more web-based curricula available for classroom use.
- The SAO's response is to provide more direct training and support to teachers through the Teacher Industry Partnership for Software program (TIPS). This program began seven years ago and was undertaken on behalf of our membership to serve as an important strategic initiative for the industry. It is a multi-faceted partnership between industry, government and education designed to benefit key constituent groups.

TIPS Program Goals

The TIPS program aims to improve the computer science knowledge and skills of high school teachers so they can motivate student interest in high technology fields. It is an initiative with a long-term vision: Expose students to the excitement and wonder of technology to create an increasing, long-lasting supply of technology professional for the industry. You can help improve this situation by your continued support of the non-profit TIPS Foundation. The SAO holds two significant fundraising events each year to benefit the TIPS program: our annual gala auction event in the Fall, and our June golf tournament. These events help us fund the following:

Special Web Site: www.oregon-tips.org

TIPS programs provide teachers with a website for curriculum exchange and development, mentoring and a variety of activities designed to ensure that computer science continues to exist as an integral part of Oregon's public school system. It provides a mechanism for teachers around the state to share and develop curricula, and it provides links to other resources.

SuperQuest Teacher Training Institute

Our biggest TIPS project is SuperQuest, a two week summer institute, that has provided teacher training workshops for up to 80 educators, for the past 5 years. These workshops cover a variety of technical topics, including Java, Robotics, networking, and Linux. The teachers pay a small fee to attend, but most of the costs are absorbed by funds provided by the SAO and our industry partners, including the Mentor Graphics Foundation, Intel Corporation, KPMG and the Tektronix Foundation

TIPS is a partnership that includes industry sponsors, the Oregon Economic and Community Development Department (OECDD), the Oregon Department of Education, local high schools and the Computer Science Teachers Association (CSTA). All donations to the TIPS Foundation are tax deductible.