

**Engineering and Technology Industry Council
Excellence Initiative
Biennium from July 1, 2003 to June 30, 2005**

Campus: PORTLAND STATE UNIVERSITY
Contact Name: ROBERT D. DRYDEN, DEAN
Date of Submission: OCTOBER 15, 2003
Summary of Proposal: Achievement of initial College National Ranking

The College of Engineering and Computer Science is strategically positioned to take the next major step forward in expanding research and improving quality. Over the last several years, we have expanded the faculty and improved quality, increased sponsored research volume (an increase of 22% in the last year) and are moving forward on the Northwest Center for Engineering, Science and Technology. Our Senior Capstone courses are featured in *U.S. News and World Report's* "America's Best Colleges 2004." In short, we have generated considerable momentum and have a clear sense of how we would like the College to develop and improve. This is an excellent time to recruit outstanding new faculty with impressive credentials and research funding. We feel that we have a limited timeframe within which to seize these opportunities.

Earlier, we indicated a desire to move forward in a number of potential research areas: Photovoltaic Research; Integrated Circuit Design and Test; Electronic Packaging; Wireless Networks; and Seismic Testing and Applied Research. The Portland Development Commission and the Westside Economic Alliance have adopted a specific set of investment priorities for the metropolitan region: Photovoltaic Research; Cyber Security; Materials Science; and Semiconductor Nanotechnology. Given our strong program in Materials Science and our work with Oregon RAINS in Cyber Security, it is clear that our plans for expansion and program development are in keeping with the emerging needs of the area.

Goals

Over the next biennium, our excellence goals are:

- We will search for a number of senior faculty members of distinction in several of the targets of opportunity identified above.
- Based on the quality of applicants and after informal discussions with nationally recognized academic and industry experts, we will recruit at least three new senior faculty members. We envision that each faculty member will be able to transfer an existing research portfolio to PSU and be able to attract quality graduate students.
- We will complete a significant renovation project in the NWCEST which will: allow for the consolidation of Materials Science Labs; free space for PSU research in the sciences; provide expanded and improve facilities in the area of laser/optics research; create laboratory space for collaborative research between Electrical and Computer Engineering and Mechanical Engineering in the area of Electronic Packaging; and allow for the expansion of the Tektronix Imaging Processing Lab.
- We will establish Ph.D. programs in Engineering and Technology Management and Mechanical Engineering.

- As a result of the above, CECS will be ranked for the first time in *US News and World Report* at the graduate level.
- Sponsored Research volume will increase by 15% annually.

Investment Rationale

The proposed expansion and improvement in the College are consistent with University priorities, the strategic plan of the College and the general direction of ETIC. These initiatives are also consistent with emerging needs in the metropolitan area as perceived by various key stakeholders. ETIC excellence investments will be matched on a 2:1 basis.

Results

See associated metrics. The specific components of the excellence initiative are:

• Search costs for faculty members of distinction	\$75,000
• Salary support for three hires in FY05 with 50% support from other sources	\$300,000
• Start-up packages with 50% support from other sources	\$300,000
• NWCEST Lab Expansion	\$195,000
•	
Total	\$870,000

Proposed Investment and Private Support Forecast (\$M)

	7/1/03- 6/30/04	7/1/04- 6/30/05	Total
Proposed OUS investment (\$M)			
New programs (3)	\$.435M	\$.435M	\$.870M
Subtotal	\$.435M	\$.435M	\$.870M
Expected private support (\$M) (4)	\$.87M	\$.87M	\$ 1.74M
Total (\$M)	\$ 1.305M	\$ 1.305M	\$ 2.61M
New Faculty Supported (FTE) (5)		3	3
Notes:			
(3) Use as many lines as you need to give the proposed new investment(s)			
(4) Consistent with ETIC Private Support Policy dated 1-23-02.			
(5) To be hired with ETIC funds during 2003-2005 biennium.			

Metrics Forecast:

	Baseline	Projected			
	AY 99	AY04	AY05	AY06	AY09
Total research expenditures per year	\$1.8M	\$3.4M	\$3.9M	\$4.5M	\$6.8M
National ranking of <program or department> (7)			TBD	TBD	TBD
National ranking of <college>			TBD	TBD	TBD
Licenses sold (9)		TBD	TBD	TBD	TBD
Notes:					
(7) Forecasts for multiple programs and departments are encouraged. Each ranking should be footnoted with the ranking body or ranking methodology.					
(8) Pre-college students participating in pre-college engineering, technology, computer science, math, and science programs					
(9) Patent licenses or other royalty-generating intellectual property licenses granted to commercial entities					