

Engineering and Technology Industry Council Core Investment Plan Biennium from July 1, 2005 to June 30, 2007

Campus: Portland State University
Contact Name: Robert D. Dryden, Dean
Date of Submission: Revised April 13, 2004
Summary of Proposal: Maintain the Course on Senate Bill 504 –
Achieve Initial College National Ranking

Goals

- Grant 529 degrees in Academic Year 09.
- Teach 61,321 Student Credit Hours in Academic Year 09.
- Achieve \$6.8 Million in Sponsored Research in Academic Year 09.
- Achieve Initial National Ranking in AY07.

Investment Description/Results

Portland State University is making solid progress toward the goal of doubling the number of engineering and computer science graduates over a ten-year period. Outstanding faculty members have been hired and student services have been expanded and improved. This proposal supports continued progress toward this goal.

The request to ETIC under this proposal reflects the continuation of current investments. These investments are essential to maintain the momentum which currently exists. During this period of difficult financial constraints facing the University and significant increases in tuition, we are stretching to meet previously established targets and benchmarks. Based on the vision and mission of the University, our goals in terms of access and diversity are important and appropriate.

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 FY03 over FY02) and are moving forward on the Northwest Center for Engineering, Science and Technology.

Our Senior Capstone courses are ranked 12th nationally by *U.S. News and World Report*. Similarly, PSU is ranked 7th in quality of Learning Communities and 4th in Service Learning by *U.S. News and World Report*. NSA has designated our Computer Science Department as a Center of Academic Excellence in Information Assurance Education. In short, we have generated considerable momentum and have a clear sense of how we would like the College to develop and improve.

We have 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.

In our funded FY03-05 Excellence Initiative, we proposed to search for three senior faculty members (\$75,000), provide start-up packages for these new hires (\$300,000) and provide ETIC support for part of their compensation packages (\$300,000). In our FY05-07 proposal, we are proposing salary support for 10 existing ETIC faculty hires and these 3 new hires. We have used an averaging concept for faculty support of \$150,000/year/faculty member. In the FY03-05 Excellence Initiative, we also proposed to: begin work on the Northwest Center for Engineering, Science and Technology; establish Ph.D. programs in Engineering and Technology Management and Mechanical Engineering; and be ranked for the first time in *US News and World Report* at the graduate level in Academic Year 07. All of this work is continuing.

The effort to expand enrollments and graduates in CECS is headed by an Assistant Dean for Enrollment and Outreach funded through ETIC. This unit is responsible for recruitment, retention, advising, and scholarship services for the College and is essential to our enrollment growth strategy. A portion of our request (\$1,010,000) is to continue the services of this unit. ETIC allocated \$850,000 for this effort in FY03-05. Our request for FY05-07 reflects the increase in number of students being served.

The Materials Engineering program within the Mechanical Engineering Department is making excellent progress in meeting industry needs in the metropolitan area. This program has been designed as a financially self-sufficient unit. Our proposal includes a modest amount of infrastructure support to cover costs of technicians, graduate students, and overhead not covered directly by grants. This level of support will also support the teaching mission of the program.

A summary of our Core Proposal is:

Retention of 13 ETIC-funded Faculty	\$3,900,000
Enrollment Services – Core Staff	\$420,000
Enrollment Services – Scholarship Support	\$400,000
Enrollment Services – Marketing, Advising & All Other	\$190,000
Enrollment Services – Total	\$1,010,000
Materials Engineering Infrastructure Support	\$500,000
 TOTAL	 \$5,410,000

Proposed Investment and Private Support Forecast (\$M)

	7/1/05- 6/30/06	7/1/06- 6/30/07	Total
Proposed OUS Investment (\$M)			
Support of existing faculty (1)	1.95	1.95	3.90
Funds tied to existing programs (2)	0.51	0.505	1.01
Programs (3)	0.25	0.25	0.50
Subtotal	2.71	2.71	5.41
Expected private support (\$M) (4)	4.06	4.06	8.12
Total (\$M)	6.76	6.76	13.53
Faculty Supported (FTE)			
Existing (1)	13.00	13	13.0
New (5)	0.00	0	0.0
Total	13.0	13.0	13.0
Notes:			
(1) Hired with ETIC funds through June 2005.			
(2) Programs started with ETIC funds through June 2005.			
(3) Use as many lines as you need to describe your programs			
(4) Consistent with ETIC Private Support Policy dated 1-23-02.			
(5) To be hired with ETIC funds during 2005-2007 biennium.			

Metrics Forecast:

	Baseline	Projected			
	AY 99	AY06	AY07	AY08	AY09
Average SAT/ACT percentile of incoming freshmen (1)	55th	64th	66th	68th	70th
Average GRE percentile of incoming grad. students (2)	70th	77th	78th	79th	80th
Women graduating from ECS programs (3)	16%	22%	24%	27%	30%
Minorities graduating from ECS programs (3)(4)	26%	28%	28%	29%	30%
ECS undergraduate student credit hours	20785	32639	34000	36000	38874
ECS bachelors degrees granted	157	233	250	275	294
ECS graduate student credit hours	8685	18847	19500	21000	22447
ECS graduate degrees granted	109	187	195	215	235
Pre-college contact hours (5)	N/A	N/A	N/A	N/A	N/A
Total research expenditures per year (6)	\$1.8M	\$4.5M	\$5.2M	\$6.1M	\$6.8M
National ranking of <program or department> (7)	N/A	N/A	TBD	TBD	TBD
National ranking of <college>	N/A	N/A	TBD	TBD	TBD
Licenses sold (8)	N/A	TBD	TBD	TBD	TBD
(9)					
Notes:					
(1) If your applicants are required to submit SAT scores, use the percentile corresponding to the average composite SAT score of those submitting them. If they have the choice of SAT and ACT, use the average composite SAT score and the average composite ACT score, convert them to percentiles, and compute a weighted average of the two.					
(2) Percentile based on the average quantitative score over those submitting such scores; ignore verbal and analytic scores.					
(3) As a percent of all those graduating					
(4) Racial and ethnic minorities who are US citizens or permanent residents					
(5) Pre-college students participating in pre-college engineering, technology, computer science, math, and science programs					
(6) Total dollars spent by ETIC-related departments towards research during academic year.					
(7) Forecasts for multiple programs and departments are encouraged. Each ranking should be footnoted with the ranking body or ranking methodology.					
(8) Patent licenses or other royalty-generating intellectual property licenses granted to commercial entities					
(9) Add additional metrics as appropriate					