

Office of Academic Affairs | University Studies

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April 17, 2009

To: Long Term Institutional Fiscal Strategies Committee

From: Sukhwant Jhaj, Budget Committee

Re: Unused Capacity

To better understand the utilization of resources in all undergraduate programs, and to identify potential inefficiencies, the cost of unused instructional capacity was calculated for the undergraduate programs at Portland State University. Following is a summary of Monte Carlo simulation used for calculating cost of unused instructional capacity:

Entire range cost and revenue implications: \$22,095,471 to \$57,178,530
Base Case: \$33,196,129
After 3,548,900 trials, the std. error of the mean is \$1,729
Mean: \$30,985,763

Assumptions for Monte Carlo simulation:

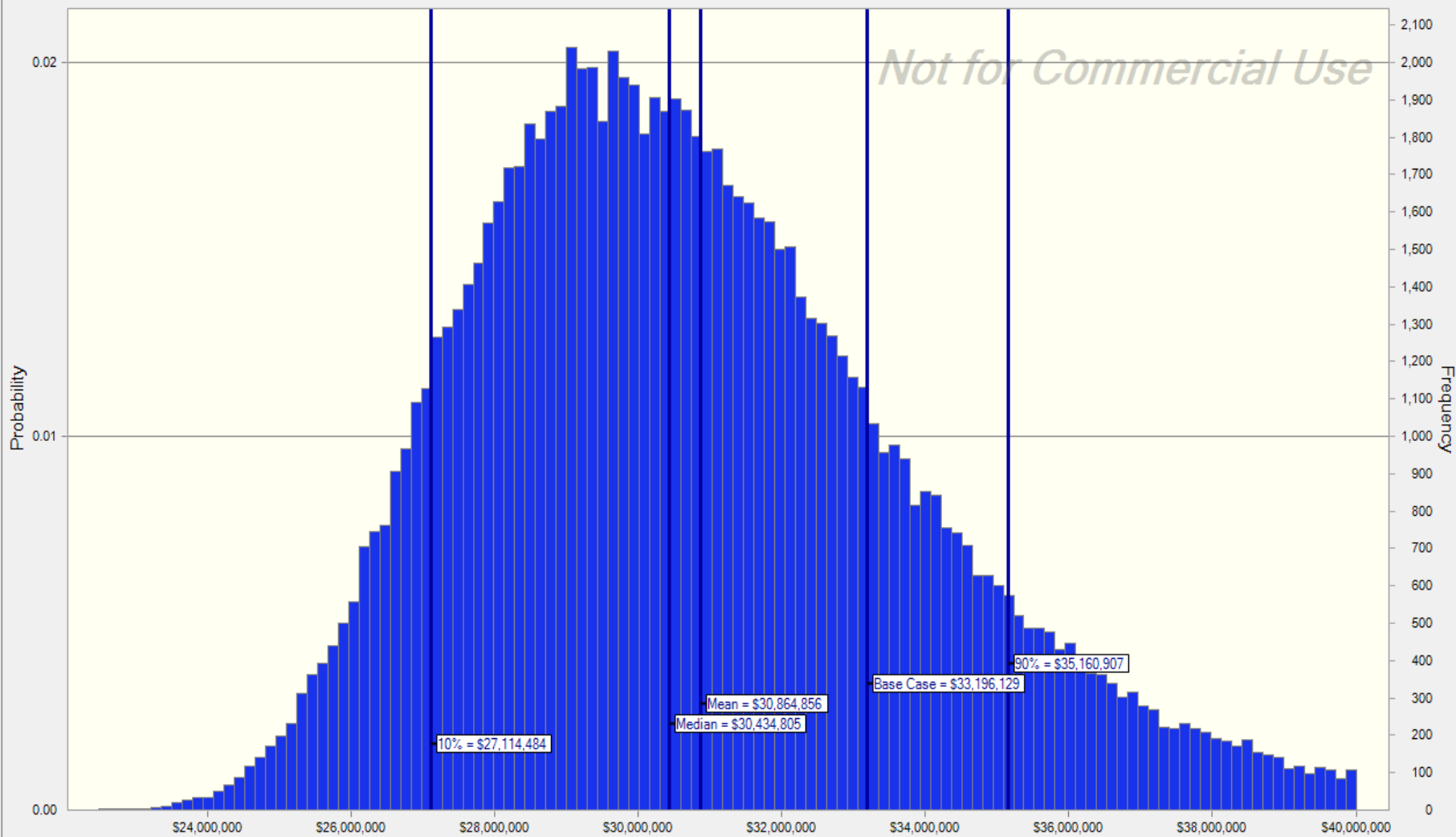
Unused capacity varies between 34,000-44,867. Likeliest 38,000 (Unused capacity was \$44,867 in 07-08 data from OIRP)
Class size varies from 15-50. Likeliest 38.
Classes per room: 10-20. Likeliest 14.
Full time fixed term load varies from 8-9 courses. Likeliest 9.
Full-time fixed-term salary contribution to teaching varies from 45% to 90%. Likeliest 90%.
TT faculty teaching load varies from 3-6 courses.
TT faculty salary contribution to teaching varies from 25% to 90%. Likeliest is 67%.
Cost of classroom space follows a standard distribution with mean of \$12,000/year.
RAM Dollar funding %: 20%-36%. Likeliest 33%.

This information is intended mainly to focus attention on potential inefficiencies and by itself does not indicate a wasteful practice. The intellectual framework for this work was provided by *Using Activity-Based Costing to Manage More Effectively* by Michael H. Granof, David E. Platt and Igor Vaysman from Department of Accounting, College of Business Administration, University of Texas at Austin.

100,000 Trials

Frequency View

Unused Instructional Capacity, Unused Space, Unrealized Revenue



**Portland State University
Course Capacity and Enrollment
2006-07, 2007-08, Fall 2008**

School/College	Course Level	2006-2007				2007-2008				Compared from Previous Year				Fall 2008			
		Maximum Enrollment	Actual Enrollment	Unused Capacity	Percentage Filled	Maximum Enrollment	Actual Enrollment	Unused Capacity	Percentage Filled	Maximum Enrollment	Actual Enrollment	Unused Capacity	Percentage Filled	Maximum Enrollment	Actual Enrollment	Unused Capacity	Percentage Filled
CLAS																	
Humanity	LD	13,182	10,347	2,835	78.5	12,717	10,032	2,685	78.9	-465	-315	-150	0.4	4,940	4,212	728	85.3
	UD	17,064	13,098	3,966	76.8	17,326	13,172	4,154	76.0	262	74	188	-0.7	5,907	5,172	735	87.6
	TOTAL	30,246	23,445	6,801	77.5	30,043	23,204	6,839	77.2	-203	-241	38	-0.3	10,847	9,384	1,463	86.5
Social Sciences	LD	8,269	5,699	2,570	68.9	8,167	6,020	2,147	73.7	-102	321	-423	4.8	2,891	2,339	552	80.9
	UD	31,142	20,028	11,114	64.3	30,061	20,663	9,398	68.7	-1081	635	-1716	4.4	10,095	7,242	2,853	71.7
	TOTAL	39,411	25,727	13,684	65.3	38,228	26,683	11,545	69.8	-1183	956	-2139	4.5	12,986	9,581	3,405	73.8
Sciences	LD	18,782	14,055	4,727	74.8	18,744	14,745	3,999	78.7	-38	690	-728	3.8	6,930	6,173	757	89.1
	UD	16,234	10,136	6,098	62.4	14,711	9,528	5,183	64.8	-1523	-608	-915	2.3	5,422	3,801	1,621	70.1
	TOTAL	35,016	24,191	10,825	69.1	33,455	24,273	9,182	72.6	-1561	82	-1643	3.5	12,352	9,974	2,378	80.7
SBA	LD	3,533	3,131	402	88.6	3,643	3,231	412	88.7	110	100	10	0.1	1,565	1,367	198	87.3
	UD	14,209	12,420	1,789	87.4	14,442	12,618	1,824	87.4	233	198	35	0.0	4,955	4,383	572	88.5
	TOTAL	17,742	15,551	2,191	87.7	18,085	15,849	2,236	87.6	343	298	45	0.0	6,520	5,750	770	88.2
GED	LD	80	43	37	53.8	80	28	52	35.0								
	UD	3,725	2,638	1,087	70.8	3,286	1,265	2,021	38.5	-439	-1373	934	-32.3	1,260	474	786	37.6
	TOTAL	3,805	2,681	1,124	70.5	3,366	1,293	2,073	38.4	-439	-1388	949	-32.0	1,260	474	786	37.6
SSW	UD	1,156	1,003	153	86.8	1,452	1,241	211	85.5	296	238	58	-1.3	661	544	117	82.3
CUPA	LD	3,520	2,439	1,081	69.3	4,223	2,788	1,435	66.0	703	349	354	-3.3	1,150	1,020	130	88.7
	UD	9,688	7,625	2,063	78.7	10,033	7,978	2,055	79.5	345	353	-8	0.8	3,426	2,842	584	83.0
	TOTAL	13,208	10,064	3,144	76.2	14,256	10,766	3,490	75.5	1048	702	346	-0.7	4,576	3,862	714	84.4
MCECS	LD	3,370	2,373	997	70.4	3,149	2,425	724	77.0	-221	52	-273	6.6	1,574	1,259	315	80.0
	UD	6,064	3,350	2,714	55.2	5,693	3,499	2,194	61.5	-371	149	-520	6.2	2,260	1,344	916	59.5
	TOTAL	9,434	5,723	3,711	60.7	8,842	5,924	2,918	67.0	-592	201	-793	6.3	3,834	2,603	1,231	67.9
FPA	LD	10,036	6,674	3,362	66.5	8,995	6,447	2,548	71.7	-1041	-227	-814	5.2	3,300	2,496	804	75.6
	UD	9,206	5,956	3,250	64.7	10,235	6,410	3,825	62.6	1029	454	575	-2.1	3,471	2,338	1,133	67.4
	TOTAL	19,242	12,630	6,612	65.6	19,230	12,857	6,373	66.9	-12	227	-239	1.2	6,771	4,834	1,937	71.4
						166,957											
														122090			
														44,867			