CALIFORNIA STATE UNIVERSITY
CHANNEL ISLANDS

Modeling Enrollment Growth in New and Existing Majors

Subcommittee on Enrollment of the Task Force on Academic Planning

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Executive Summary

An analytical tool that was previously developed by J. E. Gonzalez in consultation with Stephen Lefevre was made available for use by the Subcommittee on Enrollment to model enrollment growth in new and existing majors. The Academic Planning Model assumes that approximately 100 student FTEs can be added each year in new majors. The model suggests that in order to meet projected enrollment targets, growth through 2010 will largely be accommodated by the expansion of its existing majors in '05-'06. The subcommittee notes that in order for new majors to contribute to enrollment growth, they must have the long-term potential to attract large enrollments. Secondly, each new major selected will play a significant role in shaping the campus's make-up for years to come. Output from the Academic Planning Model was combined with academic resource ratios to develop an Academic Resource Planning component to the model, which shows that the majority of additional faculty FTEs and number of instructional sections required to accommodate growth, will largely correspond to growth in existing majors.

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Background

The Academic Planning Model which had been previously developed by the authors (9.29.04) was made available for use by the Subcommittee on Enrollment of the Academic Planning Task Force. This analytical tool models enrollment growth in new and existing majors; and includes two growth scenarios for majors: weighted program growth, and proportional program growth. The model compares enrollment growth to targeted FTEs, and assumes that on an annual basis, approximately 100 student FTEs can be allocated to growth in new programs.

The addition of new majors each year has a differential impact on total enrollment. Initially, new majors add small additional enrollment to the campus base. But as majors become established, they grow and contribute to the base enrollment of all majors. However, given the specific enrollment targets that have to be reached annually through 2010, overall growth in enrollment will largely be based on the expansion of its existing majors in ’05-’06.

Existing majors need to grow at a rate that reflects a realistic estimate of how much each program can expand and the rate of growth that the campus finds appropriate for a balance among academic programs. Simply stated, the growth of existing majors, plus the introduction of new majors will provide enrollment that meets University targets.

FTEs in Existing Majors + FTEs in New Majors = Enrollment Targets

Growing Existing and New Majors

The Academic Planning Model is based on FTEs in majors/programs. Since total University enrollment includes undergraduate students that are enrolled in a major; undergraduate students that are “undecided” as to their major; and post-baccalaureate students—the FTEs in each category are differentiated, but for brevity are simply referred to as FTEs in majors.

The base year for the planning model is ’05-’06. The campus enrollment targets that are used in the present model are based on Capital Planning Office projections. For modeling purposes, two points on the enrollment growth curve were smoothed. As shown in Exhibit 1, the annualized present year enrollment is 1,705 and it grows from 1,956 FTEs in ’05-’06 to 3,650 FTEs in ’09-’10.

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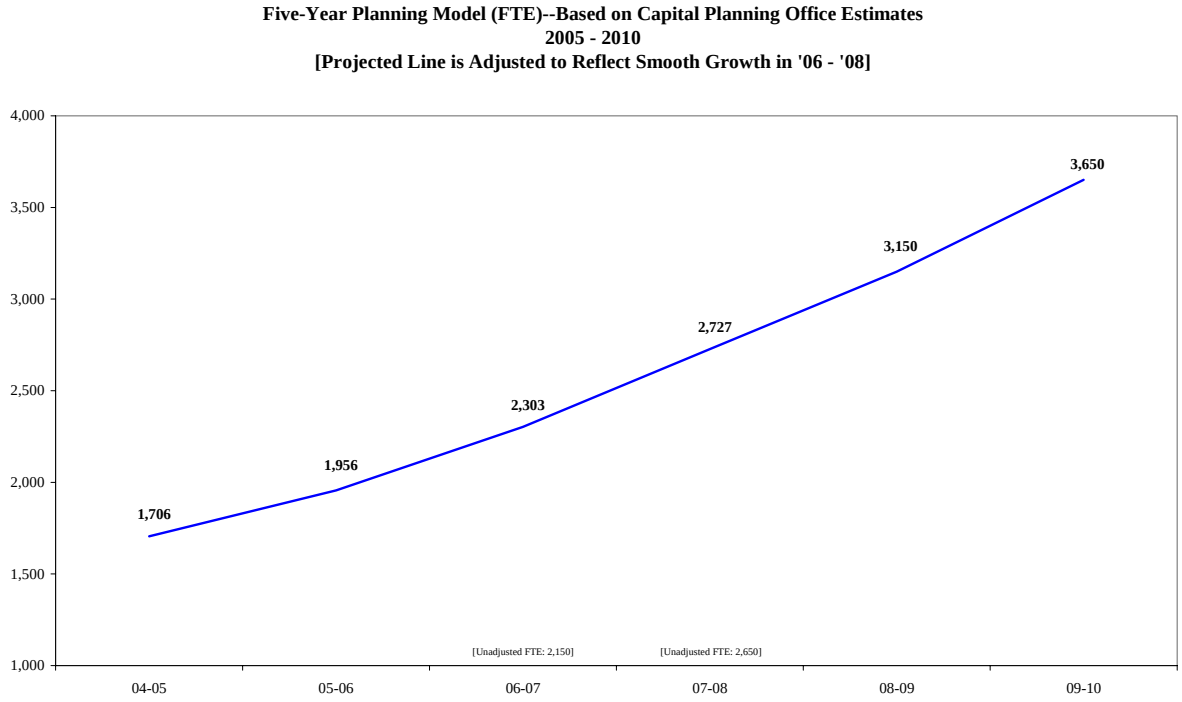
Note: The 9.29.04 enrollment model, utilized FTE enrollment projections developed by the Analytical Studies Division of the CSU Chancellor’s Office.

Exhibit 1



Academic Planning Model

For each year of the model, students in a major, continue to the next year, at a rate that is differentiated if they are undergraduate or post-baccalaureate students. And since this rate further accounts for students that graduate, stop-out, or continue to the next year—it is referred to as a Differentiated Continuation Rate.

Since the purpose of this analytical tool is for planning academic programs, two growth scenarios were developed. Under the weighted program growth scenario—majors are described as: small, medium, or large. The designation of size is based on known university enrollments for such majors, and projected growth is based on this relative size. Under the proportional program growth scenario—it is assumed that majors will grow only in proportion to the percent FTE that they contribute to overall enrollment.

In this first version of the model, it is assumed that the designation of the major by weight or proportion will remain constant over time. In later versions of the model, these designations can be modified to allow for differentiated growth of majors over time. Bearing in mind the known effects of the assumptions used in these two scenarios, this analytical tool is internally consistent and provides a logical model for understanding enrollment growth in academic programs.

Definition of terms used in the Academic Planning Model:

CR = Differentiated continuation rate
Assumption: CR = 80% for undergraduates, 60% for Post-Baccalaureates

S^{i}_{xx} = Student FTEs in majors (i), each year (xx)
Example: $S^{Math}_{'05-'06}$

C^{i}_{xx} = Continuing FTEs (i) in majors

W_{i} = Major (i) weights
Assumption: Small weighted at 20, medium at 30, large at 40

P_{i} = Major (i) proportions
Assumption: Percent distribution of FTEs in majors/programs

NG^{i}_{xx} = Natural growth in majors (i)

GEP_{xx} = Growth to existing majors

T_{xx} = FTE target for each year (xx)

100 = FTEs allocated to new majors

PRG^{i}_{xx} = Major growth

Formulas:

(1) Weighted Program Growth

$$CR \cdot S^{i}_{xx} \cdot W_{i} = NG^{i}_{xx}$$

(2) Proportional Program Growth

$$CR \cdot S^{i}_{xx} \cdot P_{i} = NG^{i}_{xx}$$

$$T - \sum_{i} NG^{i}_{xx} - 100 = GEP_{xx}$$

$$W_{i} \cdot GEP_{xx} = PRG^{i}_{xx+1}$$

$$P_{i} \cdot GEP_{xx} = PRG^{i}_{xx+1}$$

Meeting Enrollment Targets

The Academic Planning Model produces detailed data as shown in Tables 1-5.

In Table 1, the ’05-’06 base year for the model, the annualized total FTE for ’04-’05 is 1,706 which is reflected in cell [A13, 5]. Detailed information for majors is shown in Column 5. The differentiated continuation rate as applied to AY0405 FTEs is shown in Column 6, and the sum of FTEs is reflected in cell [A13, 6].

In Column 1, each major has been assigned a relative size: small, medium, or large. Examples of size designation include: Biology-medium [A2, 1], or Math-small [A7, 1]. Column 2 shows the corresponding weights assigned to majors: such as Biology which is weighted at 30 [A2, 2], or Math which is weighted at 20 [A7, 2].

The weights assigned to each major, shown in Column 7, are applied to data in Column 6; and the results in the adjusted major growth are shown in Column 10. Similarly, proportional growth in Column 8, results in adjusted program growth shown in Column 11. Column 10 and Column 11 respectively, correspond to weighted and proportional program growth.

The sum of the natural growth of existing majors for the two growth scenarios is shown in cells [A13, 10] and [A13, 11]. When subtracted from the target FTE [A14, 10 or A14, 11], the result is overall available growth in FTEs.

In the base year, four majors will be brought on-line, and they have been designated in size and weight [A16-A19, 1-2]; and as a result of this assignment in weights, it was determined that these new majors would total 100 FTEs. FTEs from the new majors, when subtracted from the overall available growth, result in additional growth to existing majors [A21, 10] and [A21, 11], respectively for the two planning scenarios.

The additional growth to existing majors is then distributed under the two scenarios as shown in Column 12 and Column 14. The sum of the FTEs, which reflect major growth, totals the specified enrollment targets. Major growth from the base year is then carried forward to the subsequent year of the model.

Since it will be the work of the Academic Planning Task Force to recommend the academic programs that will be brought on-line in future years, the model (see Tables 2-5) assumes that 100 FTEs represent a reasonable number of FTEs to be used as a proxy for the actual FTEs that will be associated with various combinations of majors ranging in size from small to large. Without having to specify actual majors, the model accounts for growth in increments of 100 FTEs for each subsequent year through 2010.

Once the Academic Planning Task Force recommends new majors, the model can be adjusted to reflect the estimated FTEs in each of the new majors, and the specific impact of their FTEs on overall enrollment growth.

Table 1
Academic Resource Planning (FTE) Model--Majors
2005-06 through 2009-10

[Rows, Cols]	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
										05-06		05-06			
	05-06 Base Year					cont rt	various wts/pcts			+ prg growth		+ bal of stds			
	# major	wt	f04	s05	04-05	.8 / .6	prg.wt	prg.%	csu.%	prg.wt	prg.%	prg.wt	% grw	prg.%	%grw
[A1]	X Undecided-Sm	20	85	79	82	66	0.056	0.048		69	69	91	0.315	86	0.245
[A2]	1 Biology-Med	30	140	142	141	113	0.083	0.082	0.025	122	122	155	0.269	151	0.238
[A3]	2 Business-Lrg	40	289	314	302	241	0.111	0.177	0.212	268	284	312	0.163	346	0.219
[A4]	3 CS-Sm	20	61	63	62	50	0.056	0.036	0.027	52	51	74	0.418	64	0.248
[A5]	4 Art-Med	30	109	118	113	91	0.083	0.066	0.026	98	97	131	0.334	120	0.241
[A6]	5 English-Med	30	94	92	93	74	0.083	0.055	0.030	81	78	113	0.407	98	0.244
[A7]	6 Mathematics-Sm	20	53	46	49	39	0.056	0.029	0.070	41	40	63	0.528	50	0.250
[A8]	7 Psychology-Lrg	40	177	223	200	160	0.111	0.117	0.059	178	179	221	0.246	220	0.230
[A9]	8 History-Med	30	71	82	76	61	0.083	0.045	0.018	66	64	99	0.497	79	0.246
[A10]	9 ES&RM-Sm	20	36	36	36	29	0.056	0.021	0.004	30	29	52	0.724	37	0.252
[A11]	10 LS-Lrg	40	383	406	394	315	0.111	0.231	0.103	351	388	394	0.125	470	0.209
[A12]	11 PBACS-Lrg	40	161	154	157	94	0.111	0.092		105	103	149	0.417	136	0.314
[A13]	Total est. FTEs	360	1656	1755	1706	1267	1.000	1.000		1462	1505	1856		1856	
[A14]	Cap Pln FTE Targets					1956				1956	1956	1956		1956	
[A15]	FTE Var: Cncl - Tot									494	451	100		100	
	new majors in 05-06														
[A16]	12 sociology-lrg	40													
[A17]	13 spanish-sm	20													
[A18]	14 chemistry-sm	20													
[A19]	15 economics-sm	20													
[A20]	Total est. FTEs	100								100	100	100		100	
[A21]	Avail. Overall Grwth									394	351	0		0	

Table 2
Academic Resource Planning (FTE) Model--Majors
2005-06 through 2009-10

[Rows, Cols]	[1]		[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
		06-07		05-06 + bal of stds		cont rt .8 / .6		various wts/pcts			06-07 + prg growth		06-07 + bal of stds			
	#	major	wt	prg.wt	prg.%	prg.wt	prg.%	prg.wt	prg.%	csu.%	prg.wt	prg.%	prg.wt	% grw	prg.%	%grw
[B1]	X	Undecided-Sm	20	91	86	73	69	0.0435	0.044		76	72	100	0.3166	92	0.289
[B2]	1	Biology-Med	30	155	151	124	121	0.0652	0.077	0.025	132	130	168	0.2744	166	0.280
[B3]	2	Business-Lrg	40	312	346	249	277	0.087	0.177	0.212	271	326	319	0.178	409	0.256
[B4]	3	CS-Sm	20	74	64	59	51	0.0435	0.033	0.027	62	53	86	0.3895	68	0.292
[B5]	4	Art-Med	30	131	120	105	96	0.0652	0.061	0.026	112	102	148	0.3242	131	0.284
[B6]	5	English-Med	30	113	98	91	78	0.0652	0.050	0.030	97	82	133	0.3743	106	0.287
[B7]	6	Mathematics-Sm	20	63	50	51	40	0.0435	0.026	0.070	53	41	77	0.4565	54	0.294
[B8]	7	Psychology-Lrg	40	221	220	177	176	0.087	0.112	0.059	193	196	241	0.2506	249	0.271
[B9]	8	History-Med	30	99	79	79	64	0.0652	0.041	0.018	84	66	121	0.4292	85	0.290
[B10]	9	ES&RM-Sm	20	52	37	42	29	0.0435	0.019	0.004	44	30	68	0.5546	39	0.296
[B11]	10	LS-Lrg	40	394	470	315	376	0.087	0.240	0.103	343	466	391	0.1407	579	0.243
[B12]	11	PBACS-Lrg	40	149	136	89	81	0.087	0.069		97	87	145	0.4975	120	0.376
[B13]	12	sociology-lrg	40	40	40	32	32	0.087	0.020	0.028	35	33	83	1.3875	42	0.296
[B14]	13	spanish-sm	20	20	20	16	16	0.0435	0.010	0.007	17	16	41	1.4453	21	0.299
[B15]	14	chemistry-sm	20	20	20	16	16	0.0435	0.010	0.004	17	16	41	1.4453	21	0.299
[B16]	15	economics-sm	20	20	20	16	16	0.0435	0.010	0.010	17	16	41	1.4453	21	0.299
[B17]		Total est. FTEs	460	1956	1956	1535	1538	1.000	1.000		1648	1731	2203		2203	
[B18]		Cap Pln FTE Targets									2303	2303	2303		2303	
[B19]		FTE Var: Cncl - Tot									655	572	100		100	
		new majors in 06-07														
[B20]	x	New FTEs in 0607	100													
[B23]		Total est. FTEs	100								100	100	100		100	
[B24]		Avail. Overall Grwth									555	472	0		0	

Table 3
Academic Resource Planning (FTE) Model--Majors
2005-06 through 2009-10

[Rows, Cols]	[1]		[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
				06-07		cont rt					07-08		07-08			
		07-08		+ prg growth		.8 / .6		various wts/pcts			+ prg growth		+ bal of stds			
	#	major	wt	prg.wt	prg.%	prg.wt	prg.%	prg.wt	prg.%	csu.%	prg.wt	prg.%	prg.wt	% grw	prg.%	%grw
[C1]	X	Undecided-Sm	20	100	92	80	74	0.0392	0.040		83	77	111	0.326	100	0.301
[C2]	1	Biology-Med	30	168	166	134	133	0.0588	0.072	0.025	142	143	183	0.286	184	0.292
[C3]	2	Business-Lrg	40	319	409	256	327	0.0784	0.178	0.212	276	386	330	0.197	488	0.265
[C4]	3	CS-Sm	20	86	68	69	55	0.0392	0.030	0.027	72	56	99	0.380	74	0.304
[C5]	4	Art-Med	30	148	131	118	105	0.0588	0.057	0.026	125	111	166	0.326	143	0.296
[C6]	5	English-Med	30	133	106	106	84	0.0588	0.046	0.030	113	88	153	0.362	115	0.299
[C7]	6	Mathematics-Sm	20	77	54	62	43	0.0392	0.023	0.070	64	44	91	0.425	57	0.306
[C8]	7	Psychology-Lrg	40	241	249	193	199	0.0784	0.108	0.059	208	220	262	0.262	283	0.282
[C9]	8	History-Med	30	121	85	96	68	0.0588	0.037	0.018	102	71	143	0.399	92	0.301
[C10]	9	ES&RM-Sm	20	68	39	54	31	0.0392	0.017	0.004	56	31	83	0.483	41	0.307
[C11]	10	LS-Lrg	40	391	579	313	463	0.0784	0.251	0.103	337	580	392	0.161	725	0.250
[C12]	11	PBACS-Lrg	40	145	120	87	72	0.0784	0.052		94	76	148	0.578	105	0.396
[C13]	12	sociology-lrg	40	83	42	66	34	0.0784	0.018	0.028	72	34	126	0.759	45	0.307
[C14]	13	spanish-sm	20	41	21	33	17	0.0392	0.009	0.007	34	17	61	0.801	22	0.310
[C15]	14	chemistry-sm	20	41	21	33	17	0.0392	0.009	0.004	34	17	61	0.801	22	0.310
[C16]	15	economics-sm	20	41	21	33	17	0.0392	0.009	0.010	34	17	61	0.801	22	0.310
[C17]	x	New FTEs in 06-07	50	100	100	80	80	0.098	0.043		88	83	156	0.773	108	0.300
[C20]		Total est. FTEs	510	2303	2303	1813	1819	1.000	1.000		1934	2051	2627		2627	
[C21]		Cap Pln FTE Targets									2727	2727	2727		2727	
[C22]		FTE Var: Cncl - Tot									793	676	100		100	
		new majors in 07-08														
[C23]	xx	New FTEs in 07-08	100													
[C27]		Total est. FTEs	100								100	100	100		100	
[C28]		Avail. Overall Grwth									693	576	0		0	

Table 4
Academic Resource Planning (FTE) Model--Majors
2005-06 through 2009-10

[Rows, Cols]	[1]		[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
		08-09		07-08 + prg growth		cont rt .8 / .6		various wts/pcts			08-09 + prg growth		08-09 + bal of stds			
	#	major	wt	prg.wt	prg.%	prg.wt	prg.%	prg.wt	prg.%	csu.%	prg.wt	prg.%	prg.wt	% grw	prg.%	%grw
[D1]	X	Undecided-Sm	20	111	100	88	80	0.0357	0.037		92	83	119	0.299	105	0.267
[D2]	1	Biology-Med	30	183	184	147	147	0.0536	0.068	0.025	154	157	195	0.266	198	0.259
[D3]	2	Business-Lrg	40	330	488	264	390	0.0714	0.179	0.212	283	460	338	0.193	568	0.235
[D4]	3	CS-Sm	20	99	74	79	59	0.0357	0.027	0.027	82	60	109	0.334	77	0.270
[D5]	4	Art-Med	30	166	143	133	115	0.0536	0.053	0.026	140	121	181	0.293	152	0.263
[D6]	5	English-Med	30	153	115	123	92	0.0536	0.042	0.030	129	96	170	0.318	121	0.266
[D7]	6	Mathematics-Sm	20	91	57	73	46	0.0357	0.021	0.070	76	47	103	0.362	59	0.271
[D8]	7	Psychology-Lrg	40	262	283	210	226	0.0714	0.104	0.059	225	249	279	0.244	312	0.251
[D9]	8	History-Med	30	143	92	114	74	0.0536	0.034	0.018	120	76	161	0.341	97	0.268
[D10]	9	ES&RM-Sm	20	83	41	67	33	0.0357	0.015	0.004	69	33	96	0.396	43	0.273
[D11]	10	LS-Lrg	40	392	725	313	580	0.0714	0.266	0.103	336	734	391	0.163	894	0.219
[D12]	11	PBACS-Lrg	40	148	105	89	63	0.0714	0.039		95	66	150	0.574	89	0.355
[D13]	12	sociology-lrg	40	126	45	101	36	0.0714	0.017	0.028	108	37	163	0.507	47	0.272
[D14]	13	spanish-sm	20	61	22	49	18	0.0357	0.008	0.007	51	18	78	0.540	23	0.275
[D15]	14	chemistry-sm	20	61	22	49	18	0.0357	0.008	0.004	51	18	78	0.540	23	0.275
[D16]	15	economics-sm	20	61	22	49	18	0.0357	0.008	0.010	51	18	78	0.540	23	0.275
[D17]	x	New FTEs in 06-07	50	156	108	125	87	0.0893	0.040		136	90	204	0.504	114	0.266
[D18]	xx	New FTEs in 07-08	50	100	100	80	80	0.0893	0.037	0.018	87	83	156	0.785	105	0.267
[D24]		Total est. FTEs	560	2727	2727	2152	2161	1.000	1.000		2284	2446	3050		3050	
[D25]		Cap Pln FTE Targets									3150	3150	3150		3150	
[D26]		FTE Var: Cncl - Tot									866	704	100		100	
		new majors in 08-09 scenario 1=100 ftes														
[D27]	xxx	New FTEs in 08-09	100													
[D30]		Total est. FTEs	100								100	100	100		100	
[D31]		Avail. Overall Grwth									766	604	0		0	

Table 5
Academic Resource Planning (FTE) Model--Majors
2005-06 through 2009-10

[Rows, Cols]	[1]		[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
				08-09		cont rt					09-10		09-10			
	09-10			+ prg growth		.8 / .6		various wts/pcts			+ prg growth		+ bal of stds			
	#	major	wt	prg.wt	prg.%	prg.wt	prg.%	prg.wt	prg.%	csu.%	prg.wt	prg.%	prg.wt	% grw	prg.%	%grw
[E1]	X	Undecided-Sm	20	119	105	95	84	0.0328	0.033		98	87	128	0.306	110	0.268
[E2]	1	Biology-Med	30	195	198	156	159	0.0492	0.063	0.025	164	169	209	0.275	213	0.261
[E3]	2	Business-Lrg	40	338	568	270	455	0.0656	0.180	0.212	288	537	348	0.209	663	0.235
[E4]	3	CS-Sm	20	109	77	87	61	0.0328	0.024	0.027	90	63	120	0.334	80	0.271
[E5]	4	Art-Med	30	181	152	145	122	0.0492	0.048	0.026	152	128	197	0.297	162	0.265
[E6]	5	English-Med	30	170	121	136	97	0.0492	0.038	0.030	143	101	188	0.316	127	0.267
[E7]	6	Mathematics-Sm	20	103	59	82	48	0.0328	0.019	0.070	85	48	115	0.354	62	0.272
[E8]	7	Psychology-Lrg	40	279	312	224	250	0.0656	0.099	0.059	238	274	298	0.253	344	0.252
[E9]	8	History-Med	30	161	97	129	77	0.0492	0.031	0.018	136	80	181	0.333	101	0.269
[E10]	9	ES&RM-Sm	20	96	43	77	34	0.0328	0.013	0.004	80	34	110	0.378	44	0.274
[E11]	10	LS-Lrg	40	391	894	312	715	0.0656	0.284	0.103	333	919	393	0.181	1117	0.216
[E12]	11	PBACS-Lrg	40	150	89	90	53	0.0656	0.028		96	55	156	0.627	75	0.360
[E13]	12	sociology-lrg	40	163	47	130	37	0.0656	0.015	0.028	139	38	199	0.434	48	0.273
[E14]	13	spanish-sm	20	78	23	62	18	0.0328	0.007	0.007	64	18	95	0.467	23	0.275
[E15]	14	chemistry-sm	20	78	23	62	18	0.0328	0.007	0.004	64	18	95	0.467	23	0.275
[E16]	15	economics-sm	20	78	23	62	18	0.0328	0.007	0.010	64	18	95	0.467	23	0.275
[E17]	x	New FTEs in 06-07	50	204	114	163	91	0.082	0.036		177	95	252	0.426	120	0.268
[E18]	xx	New FTEs in 07-08	50	156	105	124	84	0.082	0.033	0.018	135	87	210	0.559	110	0.268
[E19]	xxx	New FTEs in 08-09	50	100	100	80	80	0.082	0.032	0.006	87	83	162	0.869	105	0.269
			610	3150	3150	2490	2502	1.000	1.000		2632	2851	3550		3550	
											3650	3650	3650		3650	
		new majors in 08-09 scenario 1=100 ftes									1018	799	100		100	
[E27]	xxxx	New FTEs in 09-10	100													
[E31]		Total est. FTEs	100								100	100	100		100	
[E32]		Avail. Overall Grwth									918	699	0		0	

Lessons from Modeling Enrollment Growth

A few of the general conclusions that follow from the enrollment analysis are:

- The majority of campus enrollment growth through 2010 will come through the ***expansion of its existing ten majors and to a lesser extent from growth in majors begun in 2005 and 2006.*** Majors begun after that time likely will not have the opportunity to contribute significantly to growth over the medium term.

- In selecting among available new majors, the University must recognize that majors which have ***the potential to attract large number of students will greatly assist it in achieving the ambitious targets set for the campus*** over the next years. Not only do large major start from a larger base, they also add students at a faster rate in out years.

- By the same token, ***small majors contribute less significantly to campus enrollment*** growth, and thus require that the campus instead find enrollment among existing majors.

- Major that the campus identifies over next three or four years will ***play a significant role*** in shaping the campus's make-up for years to come. These new majors will have high expectations of enrollment growth and therefore will have an important presence among University degrees.

Future Action

The Task Force on Academic Planning will be identifying new majors to be implemented over the next eight to ten years.

The Subcommittee recommends that as the new majors are identified as part of the academic plan, the enrollment criteria included in this report be included in its thinking.

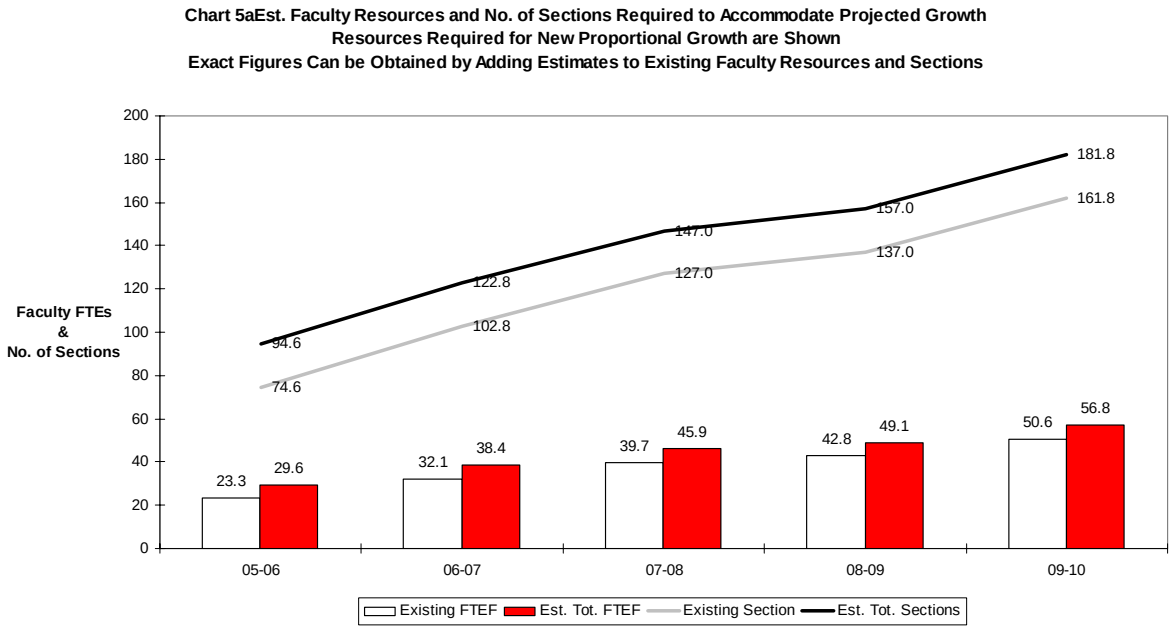
The Subcommittee recommends that each new major on the academic plan be integrated into the enrollment model to determine its effect on overall University student growth.

Academic Resources to Support Projected Enrollment

In a previous study of academic resources that was conducted by the authors, it was found that 100 student FTEs require 6.25 faculty members (FTEF) to provide instruction. Also, 100 student FTEs require that 20 instructional sections be provided.

Taking the output from the Academic Planning Model that relates to growth either to existing majors or to new majors, and applying the faculty and instructional sections ratios, results in the following projected resource requirements.

Exhibit 2



The red bar represents the total additional faculty that will be required to provide instruction to accommodate total enrollment growth. The white bar represents additional faculty required to accommodate growth in existing majors. The difference between the two values corresponds to FTEFs associated with 100 student FTEs in new majors.

Similarly, the black line represents the total additional instructional sections that will be required to accommodate total enrollment growth. The gray line represents additional instructional sections to accommodate growth in existing majors. The difference between the two values corresponds to instructional sections associated with 100 student FTEs in new majors.

The Academic Resource Planning component of the Academic Planning Model shows that the majority of additional FTEFs and instructional sections required to accommodate growth, largely corresponds to growth in existing majors.