



FOOTHILL COLLEGE

Institutional Research and Planning

DATE: August 17, 2012

TO: Lori Silverman, Faculty, Mathematics

FROM: Elaine Kuo, College Researcher

RE: NCBS 405 course success

Overview

Students enrolled in a STEM course and participated NCBS 405 during the 2011-12 academic year were identified to determine their course success. To provide some comparison, the student success rates were compared against those who did not enroll in NCBS 405. Course success rates were also examined by the number hours spent in NCBS 405.

STEM and NCBS 405 Course Enrollment

Table 1 shows student enrollment in the STEM courses during the 2011-12 academic. About half of the 4499 students were enrolled in a Math course while another quarter took a CIS course. MATH 48C enrollment was the smallest, representing only 3% of total STEM enrollment.

Table 1. Student Enrollment in STEM Courses, 2011-12.

STEM Course	Students	Percent
CHEMF001A	523	12%
CISF015A	615	14%
CISF027A	558	12%
MATHF001A	895	20%
MATHF048C	128	3%
MATHF105.	1237	27%
PHYSF002A	280	6%
PHYSF004A	263	6%
Total	4499	100%

Table 2 shows the number and percentage of the students who enrolled in NCBS 405 concurrently with their STEM course. Roughly 40% of students enrolled in a STEM course participated in NCBS 405. Note that the total does not match Table 1 because these students were only counted once.

Table 2. Concurrent Enrollment in STEM and NCBS 405, 2011-12.

Course	Students	Percent
NCBS 405	815	39%
No NCBS 405	2481	61%
Total	3296	100%

STEM and NCBS 405 Course Success Rates

Table 3 identifies overall course success in STEM courses during the 2011-12 academic year. The rate of course success ranged from a high of 75% in CHEM 1A to 44% in MATH 105. Note that MATH 105 also has the highest enrollment compared to all the other STEM courses.

Table 3. STEM Course Success, 2011-12.

STEM Course	Success		Nonsuccess		Withdrawal		Total	
	Students	Percent	Students	Percent	Students	Percent	Students	Percent
CHEMF001A	482	75%	72	11%	86	13%	640	100%
CISF015A	432	63%	108	16%	141	21%	681	100%
CISF027A	387	66%	78	13%	118	20%	583	100%
MATHF001A	559	52%	309	29%	209	19%	1077	100%
MATHF048C	93	64%	41	28%	11	8%	145	100%
MATHF105.	555	44%	441	35%	278	22%	1274	100%
PHYSF002A	215	63%	52	15%	75	22%	342	100%
PHYSF004A	220	64%	61	18%	62	18%	343	100%

When examining the STEM course success rate among NCBS 405 students, these students successfully passed their course at a higher rate than the overall course success rate (Table 3), with the exceptions of MATH 1A and PHYS 2A, where the pass rate was exactly the same at 52% and 63% respectively.

Table 4. STEM Course Success among NCBS 405 Students, 2011-12.

STEM Course	Success		Nonsuccess		Withdrawal		Total	
	Students	Percent	Students	Percent	Students	Percent	Students	Percent
CHEMF001A	317	84%	27	7%	35	9%	379	100%
CISF015A	135	76%	15	8%	28	16%	178	100%
CISF027A	58	67%	11	13%	17	20%	86	100%
MATHF001A	327	52%	185	30%	111	18%	623	100%
MATHF048C	50	76%	12	18%	4	6%	66	100%
MATHF105.	129	58%	69	31%	26	12%	224	100%
PHYSF002A	117	63%	26	14%	44	24%	187	100%
PHYSF004A	153	69%	33	15%	36	16%	222	100%

Table 5 shows the STEM course success rate between NCBS 405 and non-NCBS 405 students, suggesting that students concurrently enrolled in NCBS 405 experienced higher success rates. The differences in course success rates between these two groups are larger in CHEM 1A (21%), CIS 15A (17%), MATH 48C (22%) and PHYS 4A (14%) than the other STEM courses (1% in CIS 27A and MATH 1A).

Table 5. STEM Course Success by NCBS 405 Enrollment, 2011-12.

STEM Course	NCBS 405	Success		Nonsuccess		Withdrawal		Total	
		Students	Percent	Students	Percent	Students	Percent	Students	Percent
CHEMF001A	Yes	317	84%	27	7%	35	9%	379	100%
	No	165	63%	45	17%	51	20%	261	100%
CISF015A	Yes	135	76%	15	8%	28	16%	178	100%
	No	297	59%	93	18%	113	22%	503	100%
CISF027A	Yes	58	67%	11	13%	17	20%	86	100%
	No	329	66%	67	13%	101	20%	497	100%
MATHF001A	Yes	327	52%	185	30%	111	18%	623	100%
	No	232	51%	124	27%	98	22%	454	100%
MATHF048C	Yes	50	76%	12	18%	4	6%	66	100%
	No	43	54%	29	37%	7	9%	79	100%
MATHF105.	Yes	129	58%	69	31%	26	12%	224	100%
	No	426	41%	372	35%	252	24%	1050	100%
PHYSF002A	Yes	117	63%	26	14%	44	24%	187	100%
	No	98	63%	26	17%	31	20%	155	100%
PHYSF004A	Yes	153	69%	33	15%	36	16%	222	100%
	No	67	55%	28	23%	26	21%	121	100%

Among the different student population groups, it appears that African American and Filipino/Pacific Islander students experience much lower STEM course success rates, 35% and 41% respectively, even when concurrently enrolled in NCBS 405 (Table 6). In comparison, other ethnic groups, including Latinos, seem to benefit more from NCBS 405 as their course success rates are comparable to the overall STEM course success rate of 65%.

Table 6. STEM Course Success among NCBS 405 Students by Ethnicity, 2011-12.

Ethnicity	Success		Nonsuccess		Withdrawal		Total	
	Students	Percent	Students	Percent	Students	Percent	Students	Percent
African American	19	35%	25	45%	11	20%	55	100%
Asian	648	71%	143	16%	125	14%	916	100%
Filipino/PI	39	41%	26	27%	31	32%	96	100%
Latino/a	147	60%	59	24%	37	15%	243	100%
Native American	8	100%					8	100%
White	287	66%	81	19%	67	15%	435	100%
Unkn	138	65%	44	21%	30	14%	212	100%

STEM Course Success and NCBS 405

NCBS 405 students who spent either 5 hours or less (48%) or 11 or more hours (43%) in NCBS 405 experienced a higher success rate in their STEM course than those who spent between 6-10 hours (8%) (Table 7). Students who were not enrolled in NCBS 405 or those who were enrolled in NCBS 405 but reported no hours are excluded from this analysis.

Table 7. STEM Course Success by Hours Spent in NCBS 405, 2011-12.

NCBS Hours	Success		Non Success		Withdrawal	
	Students	Percent	Students	Percent	Students	Percent
5 hours or less	973	48%	312	54%	221	49%
6-10 hours	160	8%	60	10%	50	11%
11-20 hours	434	21%	103	18%	97	21%
21 or more	453	22%	99	17%	85	19%
Total	2020	100%	574	100%	453	100%

Methodology

STEM courses include CHEM 1A, CIS 15A, CIS 27A, MATH 1A, MATH 48, MATH 105, PHYS 2A, PHYS 4A. NCBS 405 is an optional course that can be taken concurrently with STEM course enrollment. While there were 3,296 unique students enrolled in a STEM course in 2011-12, the figures in this memo, unless otherwise indicated, count enrollment and not headcount; hence, students taking more than one STEM course or enrolling in NCBS 405 more than once during the academic year were counted multiple times.

Only students who received a final grade were included in this analysis.

Course success is defined as an earned grade of A, B, C, or P.

Table 5 excludes students not enrolled in NCBS 405 and students enrolled in NCBS 405 but reported no hours. Tables 6 and 7 are duplicated counts as a student may enroll in NCBS 405 multiple times in an academic year and have taken more than one STEM course.

Source

FHDA IR&P, ODS [Student Course, Registration Analysis]