

Students Who Progress

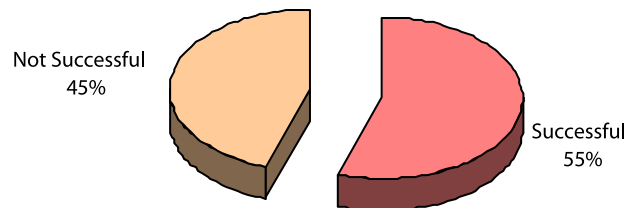
from Learning Skills through Math 123B

The following is a cohort study of the students who enrolled in Learning Skills 10 or 10C during Fall 2001, Winter 2002 or Spring 2002. The students who received a passing grade of A, B, C or P in Learning Skills 10 or 10C were then tracked through all of the sessions and semesters ending with Spring 2004 in order to determine their enrollment patterns in Math 112, 123A and 123B. The enrollments in Math were only tracked for enrollments at Harbor College, and thus enrollments at other community colleges were not considered. It is important to note when looking at these numbers that they are just numbers, and the college and the Mathematics discipline need to study them to determine whether they are good or bad. No consideration has been made to determine if students who may or may not have had some sort of special educational intervention succeed at a rate exceeding the general college population of Math students. These numbers should be considered as the base data from which other studies and discussions need to take place.

During Fall 2001, Winter 2002 and Spring 2002 a total of 472 grades were awarded to students enrolled in Learning Skills 10 or 10C. The grade distribution for these 472 students is as follows:

Grade	Number	Percentage
A	105	22.2%
B	84	17.8%
C	69	14.6%
P	1	.2%
D	32	6.8%
F	38	8.1%
I	6	1.3%
R	1	.2%
W	136	28.8%

Grade Distribution for Fall 2001 Cohort



Of the 472 students, 259 or 54.8% earned a passing grade of A, B, C or P in Learning Skills 10 or 10C and were thus able to progress to the next level of Math. Notably, 28.8% (136 students) were awarded a W, and another 14.9% (70 students) earned grades of D or F.

Students Who Progress

from Learning Skills through Math 123B

The 259 students who earned a passing grade in Learning Skills 10 or 10C were then followed forward through Spring 2004 to determine the number of students who subsequently received a passing grade of A, B or C in Math 112, 123A or 123B. This period of time is long enough to capture any additional Math enrollments at Harbor College. These students were not tracked at other community colleges to determine if they completed a higher level of Math elsewhere.

By the end of Spring 2004 the following enrollments in Math 112, 123A and 123B were found for the 259 students who had passed Learning Skills 10 or 10C in Fall 1001, Winter 2002 or Spring 2002. The data is only for students who received passing grades of A, B or C in the higher levels of Math being studied. Some of the students may have earned D, F or W grades in Math 112, 123A or 123B, but these were not considered in this study.

Learning Skills				Number	Percentage
10 or 10C	Math 112	Math 123A	Math 123B		
X				164	63.3%
X			X	1	.4%
X		X		5	1.9%
X		X	X	6	2.3%
X	X			51	19.7%
X	X	X		17	6.6%
X	X	X	X	15	5.8%

The data shows that 63.3% (164 students) did not successfully complete any level of Math higher than Learning Skills 10 or 10C. An additional 19.7% (51 students) passed only Math 112. Out of the 259 students in the cohort 22 (8.5%) successfully passed Math 123B which would allow these students to earn an Associate degree from the college even though they would not be able to transfer to a four year college or university. Of the 22 students who passed Math 123B: 15 took the sequence of Learning Skills 10 or 10C, Math 112, 123A and 123B; and an additional 6 students passed Math 123A and Math 123B without completing Math 112.

Prior Math Enrollments

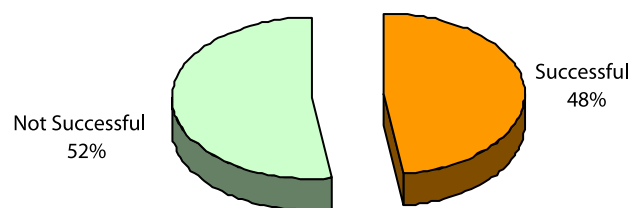
for Students Passing Math 123B

The following is a cohort study of the students who enrolled in Math 123B in Spring 2004 or Fall 2003. The students who received a passing grade of A, B, C or P in Math 123B were then tracked backward through all of the sessions and semesters ending with Fall 2001 in order to determine their enrollment patterns in Math 123A, Math 112, Learning Skills 10, or Learning Skills 10C. Enrollments in Math and Learning Skills were only tracked for enrollments at Harbor College, and thus enrollments at other community colleges were not considered. It is important to note when looking at these numbers that they are just numbers, and the college and the Mathematics discipline need to study them to determine whether they are good or bad. No consideration has been made to determine if students who may or may not have had some sort of special educational intervention succeed at a rate exceeding the general college population of Math students. These numbers should be considered as the base data from which other studies and discussions need to take place.

During Spring 2004 and Fall 2003 a total of 717 grades were awarded to students enrolled in Math 123B. The grade distribution for these 717 students is as follows:

Grade	Number	Percentage
A	73	10.2%
B	105	14.6%
C	159	22.2%
P	6	.8%
D	67	9.3%
F	130	18.1%
N	1	.1%
I	1	.1%
W	175	24.4%

Grade Distribution for Spring 2004 and Fall 2003 Math 123B Cohort



Prior Math Enrollments

for Students Passing Math 123B

Of the 717 students, 343 or 47.8% earned a passing grade of A, B, C or P in Math 123B. Notably, 24.4% (175 students) were awarded a W, and another 27.6% (198 students) earned grades of D, F or N.

The 343 students who earned a passing grade in Math 123B were then tracked backward through Fall 2001 to determine the number of students who previously had received a passing grade of A, B, C or P in Math 123A, Math 112, Learning Skills 10 or Learning Skills 10C. This period of time is long enough to capture any additional Math enrollments at Harbor College. These students were not tracked at other community colleges to determine if they completed a lower level of Math elsewhere.

Between Fall 2003 and Fall 2001 the following enrollments in Math 123A, Math 112, and Learning Skills 10 and 10C were found for the 343 students who had passed Math 123B in Spring 2004 or Fall 2003. The data is only for students who received passing grades of A, B, C or P in the lower levels of Math being studied. If a student received a D or F in one of the lower level Math classes they were not considered as having completed the course.

Math 123B	Math 123A	Math 112	Learning Skills 10 or 10C	Number	Percentage
X				129	37.6%
X			X	2	.6%
X		X		1	.3%
X	X			115	33.5%
X	X		X	4	1.2%
X	X	X		78	22.7%
X	X	X	X	14	4.1%

The data shows that 37.6% (129 students) did not complete any level of Math lower than Math 123B; 33.5% (115 students) completed only Math 123B and 123A; and, 22.7% (78 students) completed Math 123B, 123A and 112. It is important to note that of those passing Math 123B, and thus able to receive an Associate degree from the college, 93.8% (322 students) did not come through the remedial route of Learning Skills 10/10C. Out of the cohort that passed Math 123B, an additional 5.8% (20 students) took Learning Skills 10 or 10 C prior to passing Math 123B. Of those students that completed Learning Skills 10 or 10C: 4.1% (14 students) completed Learning Skills 10/10C, Math 112, and Math 123A prior to completing Math 123B; 1.2% (4 students) went from Learning Skills 10/10C to Math 123A and then Math 123B; and, .6% (2 students) went from Learning Skills 10/10C directly to Math 123B. One student (.3%) from the cohort went from Math 112 directly to Math 123B.

Prior Math Enrollments

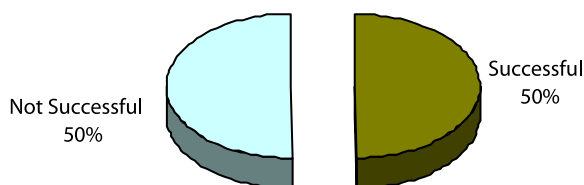
for Students Passing Math 123C

The following is a cohort study of the students who enrolled in Math 123C in Spring 2004 or Fall 2003. The students who received a passing grade of A, B, C or P in Math 123C were then tracked backward through all of the sessions and semesters ending with Fall 2001 in order to determine their enrollment patterns in Math 123B, Math 123A, Math 112, Learning Skills 10, or Learning Skills 10C. Enrollments in Math and Learning Skills were only tracked for enrollments at Harbor College, and thus enrollments at other community colleges were not considered. It is important to note when looking at these numbers that they are just numbers, and the college and the Mathematics discipline need to study them to determine whether they are good or bad. No consideration has been made to determine if students who may or may not have had some sort of special educational intervention succeed at a rate exceeding the general college population of Math students. These numbers should be considered as the base data from which other studies and discussions need to take place.

During Spring 2004 and Fall 2003 a total of 715 grades were awarded to students enrolled in Math 123C. The grade distribution for these 715 students is as follows:

Grade	Number	Percentage
A	65	9.1%
B	128	17.9%
C	156	21.8%
P	7	1.0%
D	63	8.8%
F	101	14.1%
N	3	.4%
I	3	.4%
W	189	26.4%

Grade Distribution for Spring 2004 and Fall 2003 Math 123C Cohort



Of the 715 students, 356 or 49.7% earned a passing grade of A, B, C or P in Math 123C. Notably, 26.4% (189 students) were awarded a W, and another 23.3% (167 students) earned grades of D, F or N.

The 356 students who earned a passing grade in Math 123C were then tracked backward through Fall 2001 to determine the number of students who previously had received a passing grade of A, B, C or P in Math 123B, Math 123A, Math 112, Learning Skills 10 or Learning Skills 10C. This period of time is long enough to capture any additional Math enrollments at Harbor College. These students were not tracked at other community colleges to determine if they completed a lower

Prior Math Enrollments

for Students Passing Math 123C

level of Math elsewhere.

Between Fall 2003 and Fall 2001 the following enrollments in Math 123B, Math 123A, Math 112, and Learning Skills 10 and 10C were found for the 356 students who had passed Math 123C in Spring 2004 or Fall 2003. The data is only for students who received passing grades of A, B, C or P in the lower levels of Math being studied. If a student received a D or F in one of the lower level Math classes they were not considered as having completed the course.

Math 123C	Math 123B	Math 123A	Math 112	Learning Skills	Number	Percentage
				10 or 10C		
X					155	43.5%
X				X	2	.6%
X			X		1	.3%
X		X			2	.6%
X		X		X	3	.9%
X		X	X		1	.3%
X	X				64	18.0%
X	X		X		1	.3%
X	X	X			64	18.0%
X	X	X		X	4	1.1%
X	X	X	X		47	13.2%
X	X	X	X	X	12	3.4%

The data shows that 94.1% (335 students) never took Learning Skills 10 or 10C prior to taking Math 123C. Of these 335 students: 43.5% (155 students) did not complete any level of Math lower than Math 123C; 18.0% (64 students) completed only Math 123C and 123B; 18.0% (64 students) completed Math 123C, 123B, and 123A; 13.2% (47 students) completed Math 123C, 123B, 123A and 112; and, an additional 1.4% (5 students) completed some other combination of Math 123B, 123A, and 112. Out of the cohort that passed Math 123C, 5.9% (21 students) took Learning Skills 10 or 10 C prior to passing Math 123C. Of those students that completed Learning Skills 10 or 10C: 3.4% (12 students) completed Learning Skills 10/10C, Math 112, Math 123A and Math 123B prior to completing Math 123C; and, 2.5% (9 students) went from Learning Skills 10/10C to Math 123C without taking one or more of the intermediate levels of Math.

Students Who Progress

from Math 123C to Math 200 Series

How Many Students Progress from Math 123C through One of the Courses in the Math 200 Series?

The following is a cohort study of the students who enrolled in Math 123C during Fall 2001, Winter 2002 or Spring 2002. The students who received a passing grade in Math 123C were then tracked through all of the sessions and semesters ending with Spring 2004 in order to determine their enrollment patterns in the 200 series of Math classes. This is important in as much as a student needs to have completed a course in the Math 200 series in order to transfer to a four-year college or university. The enrollments in Math were only tracked for enrollments at Harbor College, and thus enrollments at other community colleges were not considered. It is important to note when looking at these numbers that they are just numbers, and the college and the Mathematics discipline need to study them to determine whether they are good or bad. No consideration has been made to determine if students who may or may not have had some sort of special educational intervention succeed at a rate exceeding the general college population of Math students. These numbers should be considered as the base data from which other studies and discussions need to take place.

During Fall 2001, Winter 2002 and Spring 2002 a total of 655 students received some sort of a grade in Math 123C. The grade distribution for these 655 students is as follows:

Grade	Number	Percentage
A	83	12.7%
B	109	16.6%
C	119	18.2%
P	7	1.1%
D	50	7.6%
F	62	9.5%
N	2	.3%
I	1	.2%
W	222	33.9%

Of the 655 students, 318 or 48.5% earned a passing grade of A, B, C or P and were thus able to progress into the 200 series of Math classes. Notably, 33.9% (222 students) were awarded a W, and another 17.4% (114 students) earned a grade of D, F or N.

The 318 students who earned a passing grade in Math 123C were then followed forward through Spring 2004 to determine the number of students who subsequently received a passing grade of A, B, C or P in at least one of the Math 200 series of courses. The students who receive a passing grade in one of the 200 series of Math classes can transfer to a four-year college or university. This period of time is long enough to capture any additional Math enrollments at Harbor College. These students

Students Who Progress

from Math 123C to Math 200 Series

were not tracked at other community colleges to determine if they completed the higher levels of Math elsewhere.

By the end of Spring 2004 the following enrollments in the Math 200 series were found for the 318 students who had passed Math 123C in Fall 1001, Winter 2002 or Spring 2002. The data is only for students who received passing grades of A, B, C or P in the higher levels of Math being studied. Some of the students may have earned D, F or W grades in one of more of the Math 200 classes, but these were not considered in this study.

<u>Math 123C</u>	<u>Math 200 Series</u>	<u>Number</u>	<u>Percentage</u>
X		91	28.6%
X	X	227	71.4%

The data shows that 28.6% (91 students) did not successfully complete any level of Math higher than Math 123C. An additional 71.4% (227 students) passed at least one class in the 200 series of Math classes that would be needed to transfer to a four-year college or university.

Studying the actual course enrollments for the 227 students who completed at least one course in the 200 series with a grade of A, B, C or P we can determine the number of enrollments by 200 series course. This is a duplicated list of the course enrollments which were successfully completed by these students, and shows the 537 enrollments in a Math 200 series course by the 227 students.

<u>Math Course</u>	<u>Number</u>	<u>Math Course</u>	<u>Number</u>
215	49	245	78
216	16	260	42
227	191	265	27
230	32	266	14
235	18	267	5
236	8	270	1
240	55	275	1

For the 227 students: Math 215 or 216 was the last course completed by 29 students; Math 227 was the last course completed by 83 students; Math 230, 235 or 236 was the last course completed by 25 students; Math 240 or 245 was the last course completed by 61 students; Math 260, 265, 266, or 267 was the last course completed by 28 students; and, Math 270 or 275 was the last course completed by 1 student.

Math Placements

of Recent High School Graduates

What Math Placements Do We Find for Recent High School Graduates?

The level of Math preparedness for students who are recent graduates of the local high schools is always a concern of the college. This study looks at the Math assessment levels for recent high school graduates who enrolled at Harbor College in Fall 2004, Spring 2004, Fall 2003 or Spring 2003. For this analysis students were selected who had graduated from high school no more than two years before first entering the college and undergoing assessment. During these four semesters a total of 5,394 students fit this profile. Of these 5,394 students a total of 3,741 (69.4%) came from the 14 high schools listed below. Of the 5,394 who fit the profile for the study: 2,107 underwent the Matriculation assessment process for the college, and 1,597 (75.8%) of the assessments were from the 14 high schools listed below.

The placement levels for the 1,597 students which were recent graduates of the 14 high schools and for whom an assessment was available were further analyzed as to the percent at each Math placement level by high school of graduation. Not every student who was assessed was assessed in Math, in as much as some students elected to take only the English assessment, and these students are noted in the data base utilized for this analysis as having completed the Matriculation assessment process for the college. It is important to note when looking at these Math Placement percentages by high school that they are just numbers, and the college and the Math discipline need to study them to determine whether they are good or bad, and whether students being placed in the levels are prepared or not. One of the important goals of Matriculation is to insure that the placements made through the assessment process are appropriate. These numbers should be considered as the base data from which other studies and discussions need to take place.

When looking at placement levels one can not judge the overall effectiveness of the any of the high school Mathematics programs. No determination has been made of which specific Math courses these students took while in high school. It is possible for the Math or Counseling staff to manually examine the individual high school transcripts of these students to determine the level of high school Math completed.

High School	Number Assessed
San Pedro	389
Banning	350
Carson	257
Narbonne	212
Peninsula	81
Torrance	54
Gardena	53
South Torrance	50
Mary Star	39
West Torrance	27
Redondo	25
Palos Verdes	22
Bishop Montgomery	20
North Torrance	18

Source: Los Angeles Harbor College Institutional Research Data Review, Report 10, by Len Isaksen, May 17, 2005

Math Placements

of Recent High School Graduates

High School	Percentage Being Placed at Each Math Level (code definitions below this table)							
	1	2	3	4	5	6	7	8
San Pedro	3.3%	4.4%	19.0%	26.5%	15.7%	23.7%	4.9%	2.6%
Banning	2.3%	1.1%	10.3%	16.3%	17.4%	44.3%	6.0%	2.3%
Carson	2.3%	1.9%	15.6%	19.5%	19.5%	29.6%	8.9%	2.7%
Narbonne	5.7%	.9%	17.9%	21.2%	22.6%	24.5%	4.2%	2.8%
Peninsula	3.7%	3.7%	18.5%	17.3%	21.0%	17.3%	13.6%	4.9%
Torrance	1.9%		14.8%	33.3%	25.9%	22.2%	1.9%	
Gardena	1.9%	3.8%	9.4%	17.0%	15.1%	43.4%	7.5%	1.9%
South Torrance	8.0%	6.0%	20.0%	24.0%	18.0%	16.0%	6.0%	2.0%
Mary Star	2.6%		10.3%	43.6%	23.1%	12.8%	7.7%	
West Torrance	3.7%	7.4%	33.3%	14.8%	11.1%	11.1%	18.5%	
Redondo		4.0%	16.0%	12.0%	40.0%	20.0%	4.0%	4.0%
Palos Verdes	13.6%		27.3%	31.8%	4.5%	13.6%	4.5%	4.5%
Bishop Montgomery	10.0%	10.0%	45.0%	15.0%	5.0%	5.0%	5.0%	5.0%
North Torrance			11.1%	44.4%	11.1%	27.8%	5.6%	

The following are the definitions for the Math placement codes. These are the recommendations that are given to students after they have completed the assessment process at Harbor College.

Code	Recommended Math Course Placement
1	Transferable Math, Trigonometry Referral
2	College Algebra Referral, College Algebra, Math 123C
3	Algebra Referral, Math 121, Math 123C
4	Math 123B, Math 123C
5	Math 123A, Math 123B
6	Math 112, Math 123A
7	Learning Skills 10, Math 112, Not Assessed
8	Not Assessed in Math