

De Anza College Office of Institutional Research and Planning

To: Anna Miller, Biology Instructor

From: Mallory Newell, De Anza Researcher

Date: 2/18/2014

Subject: Biology Prerequisite Analysis

The Biology Department requested to explore scenarios of enrollment and success of students who took Biology 45 based on whether they took Biology 6C or Biology 40C. Students who passed BIOL6C or BIOL 40C as a path to BIOL45 were tracked. This included students who passed BIO6C or BIOL40C between 2006-07 and 2012-13 and enrolled in BIOL45 between 2008-09 and 2012-13.

Students' last attempt of BIOL40C or BIOL6C and their first attempt of the BIOL45 were included. Students with equivalent transfer credits were included. Success is A, B, C or P grades while non success is D, F, NP, I or W grades.

BIOL45: Introduction to Human Nutrition – Prerequisite: Biology 40A, 40B and 40C or (Biology 6a, 6B and 6C), or equivalent with a grade of C or better.

BIOL40C: Human Anatomy and Physiology

BIOL6C: Ecology and Evolution

Question:

Do students who have taken BIOL 6C but not BIOL 40C, as the prerequisite to BIOL 45, perform equally well in BIOL 45 as those students who have taken BIOL 40C? (Does BIOL 6C adequately prepare students for BIOL 45?)

Findings:

- Only 6 students passed BIOL6C (and did not take BIOL40C) prior to enrolling in BIOL45.
- 93% (546) of students who passed BIOL40C and took BIOL45 passed BIOL40C prior to enrolling in BIOL45. These students would meet the prerequisite of BIOL40C.
- Students who passed BIOL40C at De Anza prior to taking BIOL45 (546) exhibited a success rate of 91%.
- There is not a significant difference between the success rates of student who passed BIOL40C prior to enrolling in BIOL45 and students who did not pass BIOL40C prior to enrolling in BIOL45.

Figure 1. Students who Satisfy the Prerequisite

Took BIOL45	Passed BIOL40C	Passed BIOL40C and took BIOL45	% Students who passed BIOL40C and took BIOL45	Passed BIOL40C prior to enrolling in BIOL45	% Passed BIOL40C prior to BIOL45
909	1,792	589	33%	546	93%

- 93% (546) of students who passed BIOL40C and took BIOL45 passed BIOL40C prior to enrolling in BIOL45. These students would meet the prerequisite of BIOL40C.
- 33% (589) of students who passed BIOL40C went on to take BIOL45.

Figure 2. Pathway to BIOL45

To determine the pathway students took to get into BIOL45, the analysis was expanded to include students who took BIOL40C at both Foothill and De Anza, as a large number of students who took BIOL40C at Foothill were enrolled in BIOL45 at De Anza.

Took BIOL45	Passed BIOL40C at De Anza	Passed BIOL40C at Foothill	Passed BIOL40C at FH or DA and took BIOL45 at DA	Passed BIOL40C Prior to BIOL45	Took BIOL45C concurrently or after BIOL45	Did not take 40C at FH or DA but enrolled in BIOL45
909	1,792	2,836	784	732	52	125

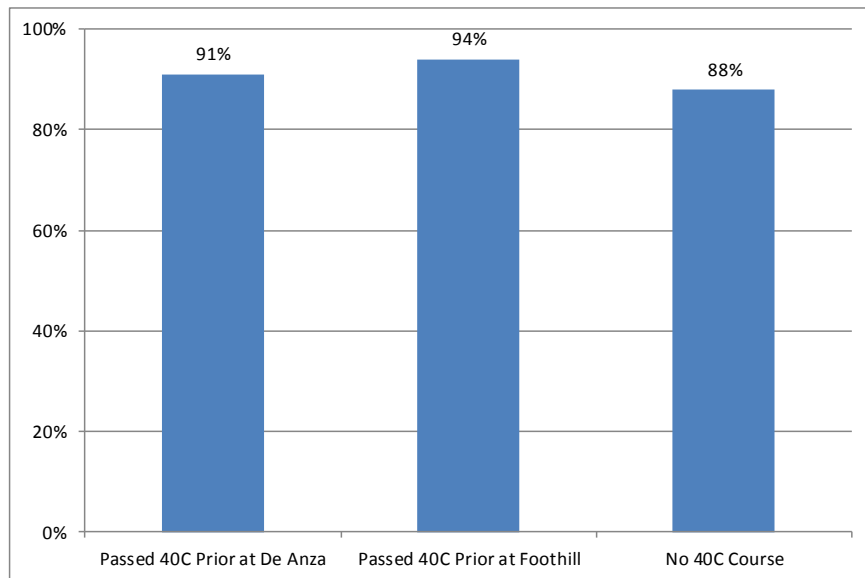
- Of the 909 students who enrolled in BIOL45, 784 passed BIOL40C at either Foothill or De Anza and enrolled in BIOL45.
- Of the 909 students who enrolled in BIOL45, 732 passed BIOL40C course prior to enrolling in BIOL45.
- Of the 909 students who enrolled in BIOL45, 52 students passed BIOL40C while enrolled in BIOL45 or after taking BIOL45, these students would not satisfy the prerequisite.
- Of the 909 students who enrolled in BIOL45, 125 students did not pass BIOL40C at Foothill or De Anza but were still enrolled in BIOL45.

Figure 3. Success Rates Based on BIOL40C Prior to Taking BIOL45

	Success in BIOL45	Percent Successful in BIOL45	Not Successful in BIOL45	Percent Successful in BIOL45	Total	Total Percent
Passed 40C Prior at De Anza	499	91%	47	9%	546	100%
Passed 40C Prior at Foothill	175	94%	11	6%	186	100%
No 40C Course	110	88%	15	12%	125	100%

52 students passed 40C after or while enrolled in BIOL45, these students would not meet the prerequisite, these students are not included in the percentages listed above.

Figure 4. Success Rates Based on BIOL40C Prior to taking BIOL45



- Students who passed BIOL40C at De Anza prior to taking BIOL45 (499) exhibited a success rate of 91%.
- Students who passed BIOL40C at Foothill prior to taking BIOL45 (175) exhibited a success rate of 94%.
- Students who did not pass BIOL40C at either Foothill or De Anza prior to taking BIOL45 (110) exhibited a success rate of 88%.
- There is not a significant difference between the success rates of student who passed BIOL40C prior to enrolling in BIOL45 and students who did not take BIOL40C prior to enrolling in BIOL45.