



FOOTHILL COLLEGE

Institutional Research and Planning

DATE: April 5, 2017
TO: Sara Cooper, Instructor
Nanette Solvason, Dean of Biological & Health Sciences
Andrew LaManque, Interim Vice President of Instruction & Institutional Research
FROM: Lisa Ly, Acting College Researcher
RE: BIOL 41 Success Rate Comparison: BIOL 10/14 Completers vs. Non-BIOL 10/14 Enrollees

Overview

Microbiology is preparing to have a department-wide discussion to align the prerequisites for BIOL 40 *Human Anatomy* and 41 *Microbiology*. Institutional Research & Planning (IR&P) was asked to examine and compare the BIOL 41 success rates of students who completed BIOL 10 or 14 *prior to* enrolling in BIOL 41 versus those who have not taken BIOL 10/14.

For the analysis, students who successfully completed¹ BIOL 10 or 14 during academic years 2011 to 2016 (6-year period) were tracked to determine if they enrolled in BIOL 41. For the students who did enroll in BIOL 41, only their *first* enrollment in BIOL 41 was examined.

Summary

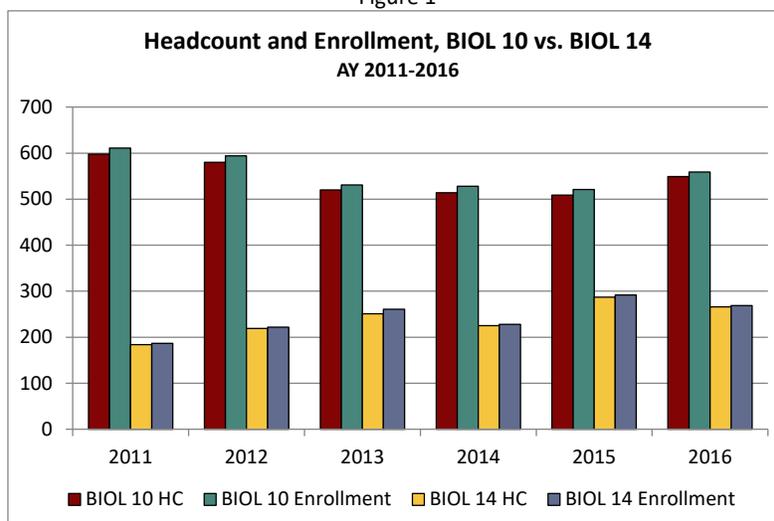
- Students who completed BIOL 10 or BIOL 14 prior to enrolling in BIOL 41 had lower success rates in BIOL 41 (80% and 82%, respectively) than compared to students who never enrolled in BIOL 10/14 (84%). The difference is not statistically significant at a 95% or 99% confidence interval.
- Findings indicate students who completed BIOL 10 or BIOL 14 in the same term as enrolling in BIOL 41 had higher success rates than compared to those who completed BIOL 10/14 before or after enrolling in BIOL 41.

Overview of BIOL 10/14 Headcount and Enrollment

- In general, students are more likely to enroll in BIOL 10 *General Biology: Basic Principles* than BIOL 14 *Human Biology*. The average six-year headcount and enrollment are as follows:
 - BIOL 10: 545 (headcount), 557 (enrollment)
 - BIOL 14: 239 (headcount), 243 (enrollment)

¹ Successful completion includes grades of A, B, C or Pass.

Figure 1



Comparison Groups

For the analysis, there are three comparison groups: (1) BIOL 10 enrollees, (2) BIOL 14 enrollees and Non-BIOL 10/14 enrollees. Overall, very few BIOL 10 and 14 completers have enrolled in BIOL 41.

- **BIOL 10 Enrollees:** 13% of BIOL 10 completers enrolled in BIOL 41
- **BIOL 14 Enrollees:** 12% of BIOL 14 completers enrolled in BIOL 41
- **Non-BIOL 10/14 Enrollees:** 2% enrolled in BIOL 41
- Note: There are 114 students who enrolled in *both* BIOL 10 and 14. They are omitted from the analysis since it is difficult to determine which of these two courses may have had an effect on students' BIOL 41 outcomes. Since these 114 students account for less than 3% of the overall BIOL 10 and 14 student group, removing them from affect the analysis does not alter the findings. Additionally, only 9 of these 114 students enrolled in BIOL 41.

Figure 2

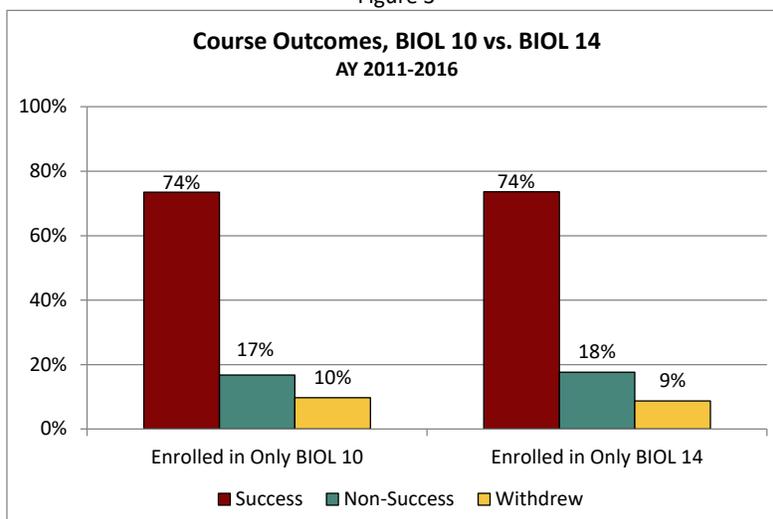
AY 2011-2016					
	BIOL 10/14 Completers			BIOL 41 Enrollees	
	HC	HC	Percent of Base	HC	Percent of Completers
Enrolled in only BIOL 10	2,999	2,366	79%	309	13%
Enrolled in only BIOL 14	1,258	986	78%	114	12%
Never enrolled in BIOL 10 or 14	101,775	N/A	N/A	2,240	2%

Enrolled in Only BIOL 10 or BIOL 14: Course Outcomes

For context, the course outcomes of students who enrolled in only BIOL 10 versus BIOL 14 are examined.

- BIOL 10 and BIOL 14 course outcomes are very similar: success rates are 74%, non-success rates are about 18% and withdraw rates are about 10%.

Figure 3



BIOL 41 Course Outcomes

- While the BIOL 41 course success rate is at least 80%, students who completed BIOL 10 or BIOL 14 prior to enrolling in BIOL 41 had lower success rates in BIOL 41 (80% and 82%, respectively) than compared to students who never enrolled in BIOL 10/14 (84%).
- In general, students who **never enrolled** in BIOL 10 or BIOL 14 have a higher success rate (84%) than compared to those who completed BIOL 10 (80%) or BIOL 14 (81%), regardless of when students completed BIOL 10/14 in relation to enrolling in BIOL 41.
- Among BIOL 10/14 completers, most of them enrolled in BIOL 10/14 prior to enrolling in BIOL 41.
 - **BIOL 10 completers:** Those who completed BIOL 10 in the same term as enrolling in BIOL 41 (88%) or after enrolling in BIOL 41 (82%), have higher success rates than those who completed BIOL 10 prior to enrolling in BIOL 41 (80%).
 - **BIOL 14 completers:** Those who completed BIOL 14 in the same term as enrolling in BIOL 41 (100%) or prior to enrolling in BIOL 41 (82%) have a higher success rates versus those who completed BIOL 14 after enrolling BIOL 41 (74%).

Table 1: BIOL 41 Course Outcomes, BIOL 10/14 Completers vs. Non-BIOL 10/14 Enrollees AY 2011-2016

	BIOL 41 Course Outcomes							
	Success		Non-Success		Withdrawn		Row Total	
	Students	Percent	Students	Percent	Students	Percent	Students	Percent
Comparison Group 1: BIOL 10								
Completed BIOL 10 <i>prior</i> to enrolling in BIOL 41	206	80%	22	8%	31	12%	259	100%
Completed BIOL 10 in the <i>same term</i> as enrolling in BIOL 41	14	88%	2	13%	0	0%	16	100%
Completed BIOL 10 <i>after</i> enrolling in BIOL 41	28	82%	4	12%	2	6%	34	100%
Total	248	80%	28	9%	33	11%	309	100%
Comparison Group 2: BIOL 14								
Completed BIOL 14 <i>prior</i> to enrolling in BIOL 41	75	82%	7	8%	10	11%	92	100%
Completed BIOL 14 in the <i>same term</i> as enrolling in BIOL 41	3	100%	0	0%	0	0%	3	100%
Completed BIOL 14 <i>after</i> enrolling BIOL 41	14	74%	3	16%	2	11%	19	100%
Total	92	81%	10	9%	12	11%	114	100%
Comparison Group 3: Never Enrolled in BIOL 10 or 14								
	1,885	84%	135	6%	220	10%	2,240	100%