This document contains the findings of a study on the relationship between a student completing the New Student Online Orientation (NSOO) and student success as measured through academic progress and student persistence. Both outcomes are examined in the short term (e.g. the first semester a student started at the College) and the long term (e.g. throughout the student's tenure at the College.

Population Analyzed: All *new* first-time credit seeking students who started at the College in either a Fall or Spring semester since Fall 2016 were included in the analysis. These students were then separated into four comparison groups:

1. Students who started at the College *before* the implementation of the NSOO and never started the NSOO
2. Students who stared at the College *after* the implementation of the NSOO and never started the NSOO
3. Students who started at the College *after* the implementation of the NSOO and *started* the NSOO but did *not* complete the NSOO
4. Students who started at the College *after* the implementation of the NSOO and *completed* the NSOO

Analytical Strategy: In terms of descriptive statistics, cross-tabulations between student demographics and the completion of the NSOO are presented to establish whether there are any differences in "pick up" of the NSOO between student populations.

In terms of inferential statistics, a difference-in-differences (DiD) analysis was used to produce the attrition probabilities and predicted success rates of students based on their comparison group. As the name suggests, DiD allows for an examination of the differences between groups after the implementation of an intervention (in this case NSOO) and groups prior to the implementation of an intervention. In the current context, this allows one to rule out any increases in student success that are a due to time trends at the College as opposed to the NSOO. While the main independent variable of interest was a student's comparison group, the DiD model also accounted for student demographics (e.g. race/ethnicity, gender, age) and academic characteristics (placement level, credit hours, etc.).

All results are discussed on the remaining pages of this document.

Descriptive Analysis Results

The following section presents the results of the descriptive analysis examining the usage of NSOO by comparison group and various student demographics.

Students are only counted if they started at the College *following* the implementation of the NSOO and all demographics are based off a student's information during their first semester at the College.

All percentages are row percentages and can be read as the percent of a certain demographic who did not start the NSOO, the percent of a certain demographic who started but did not finish the NSOO, and the percent of a certain demographic who finished the NSOO.

Table 1 NSOO Usage by Race/Ethnicity

	No NSOO		Started NSOO		Completed NSOO	
	#	%	#	%	#	%
Asian	183	27.15%	292	43.32%	199	29.53%
Black Non-Hispanic	872	29.87%	1,150	39.40%	897	30.73%
Hispanic	328	28.11%	431	36.93%	408	34.96%
Other/Unknown	183	36.38%	194	38.57%	126	25.05%
White Non-Hispanic	425	30.40%	523	37.41%	450	32.19%
Total	1,991		2,590		2,080	

- Table 1 presents NSOO usage by a student's race ethnicity
  - Hispanic students had the largest proportion of students who completed the NSOO (34.96%)
  - Students of an other/unknown race/ethnicity had the largest proportion of students who did not start the NSOO (36.38%)
  - Asian students had the largest proportion of students who started but did not finish the NSOO (43.32%)

	No NSOO		Started NSOO		Completed NSOO	
	#	%	#	%	#	%
Female	1,126	27.78%	1,586	39.13%	1,341	33.09%
Male	858	33.19%	996	38.53%	731	28.28%
Total	1,984		2,582		2,072	

- Table 2 presents NSOO usage by a student's gender
  - A larger proportion of male students did not start the NSOO (33.19% compared to 27.78%)
  - A larger proportion of female students completed the NSOO (33.09% compared to 28.28%)

	No NSOO		Started NSOO		Completed NSOO	
	#	%	#	%	#	%
ESL	142	27.57%	220	42.72%	153	29.71%
Level II	164	17.88%	403	43.95%	350	38.17%
Level III	101	18.88%	225	42.06%	209	39.07%
Level IV	73	16.04%	185	40.66%	197	43.30%
Level V	108	18.52%	223	38.25%	252	43.22%
Level VI	569	29.16%	745	38.19%	637	32.65%
Total	1,157		2,001		1,798	

- Table 3 presents NSOO usage by a student's English placement level
  - Level VI had the largest proportion of students who did not start the NSOO (29.16%) followed by ESL students (27.57%)

- Level IV had the largest proportion of students who completed the NSOO (43.30%) followed by Level V students (43.22%)
- Level II had the largest proportion of students who started but did not finish the NSOO (43.95%) followed by ESL students (42.72%)

Table 4 NSOO Usage by Math Placement

	No NSOO		Started NSOO		Completed NSOO	
	#	%	#	%	#	%
College Level	648	27.15%	1,023	39.14%	943	36.07%
FNMT 016	410	21.59%	790	41.60%	699	36.81%
FNMT 017	99	22.35%	188	42.44%	156	35.21%
Total	1,157		2,001		1,798	

- Table 4 presents NSOO usage by a student's Math placement level
    - College Level placement had the largest proportion of students who did not start the NSOO (27.15%)
    - The proportion of students across all three levels who completed the NSOO is relatively equal
    - FNMT 017 placement had the largest proportion of students who started but did not complete the NSOO (42.44%)

Table 5 NSOO Usage by Time Status

	No NSOO		Started NSOO		Completed NSOO	
	#	%	#	%	#	%
Full Time	640	24.54%	974	37.35%	994	38.11%
Part Time	1,351	33.33%	1,616	39.87%	1,086	26.79%
Total	1,991		2,590		2,080	

- Table 5 presents NSOO usage by a student's time status

- A higher proportion of part time students did not start the NSOO as compared to full time students (33.33% compared to 24.54%)
- A higher proportion of full time students completed the NSOO as compared to part time students (38.11% to 26.79%)

Inferential Analysis Results

The following sections presents the results of the difference-in-differences (DiD) analysis on both short-term and long-term student outcomes.

For each outcome a point estimate is presented which represents the average impact of being in one comparison group over the others. Additionally, the Lower and Upper 95% confidence intervals (CI) accompany each point estimate to illustrate the amount of uncertainty surrounding the outcomes for each group. Confidence Intervals can be interpreted in the following way: "95% of the time, a student who completed the NSOO has between a 19.25% and 33.5% chance of leaving the College at the end of their first semester."

As a reminder: long term outcomes represent the predicted average effect of the NSOO over a student's time at the College whereas short term outcomes represent the effect of the NSOO for their first semester at the College.

Table 6 Long Term Outcomes – Attrition

Comparison Group	Attrition Probability	Lower 95%	Upper 95%
Pre-NSOO x No NSOO	21.62%	20.67%	22.57%
Post-NSOO x No NSOO	23.38%	22.14%	24.63%
Post-NSOO x Started NSOO	15.01%	13.40%	16.63%
Post-NSOO x Completed NSOO	11.17%	09.46%	12.89%

- Table 6 presents the average attrition probabilities of students over their time at the College as a function of their comparison group
  - Students who did not start the NSOO and enrolled at the College following the implementation of the NSOO have the highest attrition probability (23.38%)
  - Students who completed the NSOO have the lowest attrition probability (11.17%)

Table 7 Short Term Outcomes - Attrition

Comparison Group	Attrition Probability (1st Semester)	Lower 95%	Upper 95%
Pre-NSOO x No NSOO	24.23%	17.70%	30.76%
Post-NSOO x No NSOO	36.23%	29.04%	43.41%
Post-NSOO x Started NSOO	30.86%	23.38%	38.44%
Post-NSOO x Completed NSOO	26.40%	19.25%	33.54%

- Table 7 presents the attrition probabilities of a student during their first semester at the College as a function of their comparison group
  - Students who did not start the NSOO and enrolled at the College following the implementation of the NSOO have the highest attrition probability (36.23%)
  - Students who completed the NSOO have the lowest attrition probability (26.40%)

Table 8 Long Term Outcomes - Academic Progress

Comparison Group	Predicted Progress	Lower 95%	Upper 95%
Pre-NSOO x No NSOO	67.72%	67.02%	68.42%
Post-NSOO x No NSOO	65.52%	63.06%	67.99%
Post-NSOO x Started NSOO	68.63%	66.82%	70.44%
Post-NSOO x Completed NSOO	72.15%	70.34%	73.95%

- Table 8 presents the average predicted progress (% of coursework passed) of students over their tenure at the College as a function of their comparison group
  - Students who did not start the NSOO and enrolled at the College following the implementation of the NSOO have the lowest predicted progress (65.52%)
  - Students who completed the NSOO have the highest predicted progress (72.15%)

Table 9 Short Term Outcomes - Progress

Comparison Group	Predicted Progress (1st Semester)	Lower 95%	Upper 95%
Pre-NSOO x No NSOO	67.37%	59.51%	75.24%
Post-NSOO x No NSOO	64.84%	54.96%	74.71%
Post-NSOO x Started NSOO	68.59%	58.61%	78.57%
Post-NSOO x Completed NSOO	72.24%	66.09%	78.40%

- Table 9 presents the predicted progress (% of coursework passed) of students during their first semester at the College as a function of a student's comparison group
  - Students who did not start the NSOO and enrolled at the College following the implementation of the NSOO have the lowest predicted progress (64.84%)
  - Students who completed the NSOO have the highest predicted progress (72.24%)