Results

Demographics

Two freshman class cohorts were examined in the current study: a census of 4253 students in the first-year cohort of the Fall 2012 semester, and a census of 3990 students in the first-year cohort of the Fall 2013 semester. Of the 8,243 total participants, 52.7% were female and 47.3% were male. 2,039, or 24.7% were first-generation college students.

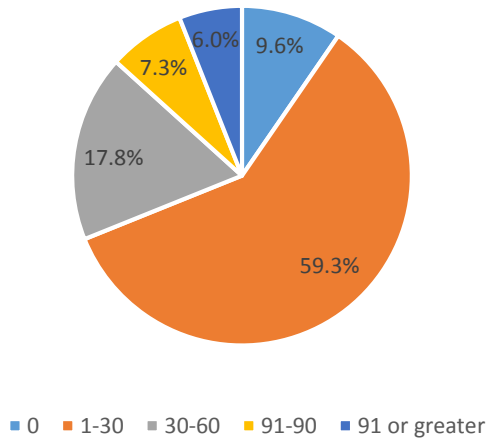
Facility usage

Of the 8,243 participants in the 2012-2013 and 2013-2014 freshman cohorts, 7,375 or 89.5% visited UREC indoor facilities at least once during the academic year.

The mean number of scans recorded for the 2012-2013 freshman cohort was 27.40, while the mean number of scans recorded for the 2013-2014 freshman cohort was 23.89.

In considering scan frequency, ranges were chosen that reflect an average number of weekly visits during an academic year. The following chart shows the distribution of individual UREC facility entrance frequencies over the course of the 2012-2013 school year. Most of the cohort checked into UREC facilities between 1 and 30 times during the year (59.3%), while 17.8% of the cohort checked into UREC facilities 31-60 times (or approximately 1-2 times per week). 9.6% did not visit UREC facilities during the school year. Figure 1 shows the distribution of scan frequency ranges over the course of the year.

Figure 1: Total scans during the 2012-2013 academic year



UREC facility scans and GPA

In all four semesters studied, UREC facility visitation frequency per semester was significantly positively correlated with semester GPA (see Table 1). In semester-by-semester correlations, students who did not complete the semester were omitted from the analysis.

Table 1

Correlation Between UREC Facility Check-In Frequency and GPA Within Semester

	Fall 2012	Spring 2013	Fall 2013	Spring 2014
N	4253	3916	3990	3674
r^2	.104	.118	.058	.088
p (two-tailed)	.01	.01	.01	.01

Facility visitation frequency during the entire academic year was also positively correlated with year-end cumulative GPA (See Table 2). It should be noted that cumulative GPA includes students who completed fall semester, but may not have re-enrolled or completed the spring semester.

Table 2

Correlation Between UREC Facility Check-In Frequency and Year-End Cumulative GPA in first-year students

	2012-2013	2013-2014
N	4253	3990
r^2	.177	.135
p (two-tailed)	.01	.01

Comparison of mean GPA for visitation frequency ranges

A one-way ANOVA was utilized to analyze whether GPA varied as a function of UREC facility visits during the Fall 2012 semester. The between-subjects factor represented five different facility visitation frequency ranges: zero visits, 1-15 visits (an average of approximately 1 per week during a semester), 16-30 visits (approximately 2 per week), 31-45 visits (approximately 3 per week), and over 45 visits (approximately 4 or more per week). Because Levene's test indicated unequal variances, the Brown-Forsythe statistic was used as an adjusted *F* statistic. Table 3 shows the means and standard deviations of GPA for each of the five groups.

Table 3

Means and Standard Deviations of GPA

Facility entrance range	*n*	*Mean*	*SD*
0 entrances	707	2.87	.90
1-15 entrances	2401	3.04	.79
16-30 entrances	593	3.12	.77
31-45 entrances	285	3.19	.79
46 or more entrances	267	3.25	.62

Significant differences in GPA occurred between the five different scan frequency groups, $F(2, 2054.11) = 17.79$, $p<.01$. Post-hoc comparisons using Games-Howell procedures for unequal variances were used to determine which group GPA means differed from each other. The results are given in Table 4 and indicate that students who visited UREC facilities more frequently have higher GPAs. Students who had at least one UREC facility entrance during the semester had significantly higher GPAs than students who did not visit. Other significant differences in GPA are indicated.

Table 4

Games-Howell Post Hoc Results

		Mean Differences				
Group	Mean	1.	2.	3.	4.	5.
1. 0 entrances	2.87	0	-.17*	-.24*	-.33*	-.38*
2. 1-15 entrances	3.04	.17*	0	-.07	-.15*	-.21*
3. 16-30 entrances	3.12	.24*	.07	0	-.07	-.14
4. 31-45 entrances	3.19	.32*	.15*	.07	0	-.05
5. 46 or more	3.25	.38*	.21*	.14	.06	0

*p<.001

Semester-to-semester retention

The overall retention rate for first-year students who completed Fall 2012 semester with at least one credit and enrolled in Spring 2013 semester was 94.3%. A Chi-Square test of independence was used to analyze the relationship between the visitation frequency range and retention from Fall 2012 to Spring 2013 semester. There was a relationship between how many times students visited UREC indoor facilities during the Fall 2012 semester and their likelihood to re-enroll for the Spring 2013 semester X^2 (4, N=4253) =16.465, p=.002. Students who did not visit UREC facilities had the lowest re-enrollment rate for the Spring 2013 semester.

Table 5

Re-enrollment for Spring 2013 semester

Facility entrance range	Re-Enrollment for Spring 2013		
	No	Yes	Total
0 entrances	8.2% (58)	91.8% (649)	100% (707)
1-15 entrances	5.7% (137)	94.3% (2264)	100% (2401)
15-30 entrances	3.5% (21)	96.5% (572)	100% (593)
31-45 entrances	6.7% (19)	93.3% (266)	100% (285)
46 or more entrances	3.3% (9)	96.6% (258)	100% (267)

Fall-to-fall one-year retention

The overall retention rate for first-year students who completed the Fall 2012 semester with at least one credit and enrolled in the Fall 2014 semester was 83.8%. A Chi-Square test of independence was used to analyze the relationship between the visitation frequency range during the 2012-2013 school year and re-enrollment in the Fall 2013 semester. There was a relationship between how many times students visited UREC indoor facilities during the 2012-2013 school year and their likelihood to re-enroll for the Fall 2013 semester X^2 (4, N=4253) =55.694, p=.000. Students who did not visit UREC facilities had the lowest re-enrollment rate from the 2012-2013 school year to the Fall 2013 semester.

Table 6

One-Year re-enrollment from Fall 2012 to Fall 2013

Facility entrance range	Re-Enrollment for Fall 2013		
	No	Yes	Total
0 entrances	26.8% (109)	73.2% (298)	100% (407)
1-30 entrances	16.9% (425)	83.1% (2097)	100% (2522)

31-60 entrances	10.8% (82)	89.2% (676)	100% (758)
61-90 entrances	10.9% (34)	89.1% (278)	100% (312)
91 or more entrances	15.4% (39)	84.6% (215)	100% (254)

Cumulative hours passed

A one-way ANOVA was used to analyze differences in cumulative hours passed by students at the end of the 2012-2013 school year according to UREC facility visit ranges. Because Levene's test indicated unequal variances, the Brown-Forsythe statistic was used as an adjusted *F* statistic. There was a difference between groups in the mean cumulative hours passed, F(4, 4248)=33.025, p=.000. Table 7 shows the means and standard deviations for cumulative hours passed according to the number of UREC facility entrances.

Table 7

Means and Standard Deviations of cumulative hours passed

Facility entrance range	*n*	*Mean*	*SD*
0 entrances	407	27.70	15.62
1-30 entrances	2522	32.31	14.54
31-60 entrances	758	34.99	12.93
61-90 entrances	312	36.95	12.46
91 or more entrances	254	36.70	12.15

Post-hoc comparisons using Games-Howell procedures for unequal variances were used to determine which group cumulative hour means differed from each other. The results are given in Table 8 and indicate that students who visited UREC facilities more frequently have a greater number of cumulative hours passed. Students who had at least one UREC facility entrance during the semester had significantly greater hours passed than students who did not visit. Other significant differences in GPA are indicated.

Table 8

Games-Howell Post Hoc Results for UREC facility visits and cumulative hours passed

		Mean Differences				
Group	Mean	1.	2.	3.	4.	5.
1. 0 entrances	27.70	0	-4.61*	-7.29*	-9.25*	-9.00*

2. 1-30 entrances	32.31	4.61*	0	-2.69*	-4.64*	-4.40*
3. 31-60 entrances	34.99	7.2*	2.69*	0	-1.95	-1.71
4. 61-90 entrances	36.95	9.25*	4.64*	1.95	0	.24
5. 91 or more	36.70	9.00*	4.40*	1.71	-.24	0

*p<.001