

First Year Experience Student Outcomes

October 31, 2019

This analysis was produced by OPEIR in response to a request by the UTC Division of Enrollment Management and Student Affairs. Results are not necessarily generalizable and attempts to use results outside the scope of this project should be avoided.

Key Findings

Students who took First Year Experience (FYE) courses in the Fall 2018 term persisted to the Spring 2019 term at a relatively high rate (91%), but persistence to the Fall 2019 term was somewhat low (68%).

There were not significant differences in Fall-Fall retention by type of FYE or FYE faculty type, but some FYE sections had much higher retention than others. High-performing sections were more often learning community sections and were more often taught by tenured or tenure track faculty. This may indicate that some majors or colleges are better suited to the learning community model. A closer study of high performing sections could yield best practices that could enrich the FYE experience for all students.

About half the students who did not persist to the Spring 2019 term earned no credit hours during the Fall 2018 term and probably left UTC during that first term (53%). Students who did not persist to the Spring 2019 term were disproportionately non-white and first generation, and disproportionately did not live on campus.

Students who persisted to the Spring 2019 term but did not enroll the following Fall were lower-performing academically in their first term, and academic performance went further downhill during the Spring 2019 term. These students were disproportionately male and first generation. Both groups of non-retained students had lower incoming academic markers like high school GPA than all FYE students and a smaller proportion of non-retained students started the Fall 2018 term with earned credit hours than the overall FYE student population.

Students Enrolled in First Year Experiences During the Fall 2018 Term

This analysis examines outcomes for 419 students who participated in 21 sections of FYE courses during the Fall 2018 term. There were 10 sections of traditional FYE courses, in which 213 students were enrolled, and 11 sections of FYE courses paired with introductory courses in specific content areas to form learning communities (LCs), listed in Table 1. LCs included in this analysis served 206 students.

Table 1: Learning Communities Included in Analysis

LC Description	Paired Course	Number of Students Fall 2018 Term
Biology (2 sections offered)	BIOL 1110L	46
Chemistry	CHEM 1110	18
Communications	COMM 1010	26
Education	EDUC 2010	20
Engineering & Computer Science	MATH 1710	19
Humanities & Modern/Classical Languages and Literature	MLNG 1500	16
Performing Arts	MUS 1000	12
Political Science & Public Service¹	PSPS 1010	12
Social Work	SOCW 1100	20
Undecided	SOC 1510	17

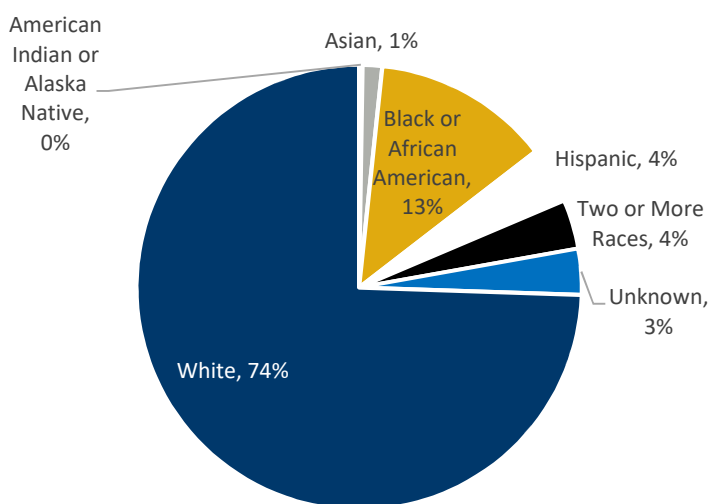
Demographic Information

FYE students skew more heavily female than UTC's overall undergraduate population, which was 56% female and 44% male during the Fall 2018 term. Sixty two percent of FYE students identify as female and 38% identify as male.

About one in four FYE students identify as first generation college-goers; 24% are first gen, 74% are not first gen, and 3% have an unknown first generation status.

Almost all FYE students are teenagers; 5 students are older than 20 with only one student older than 25. The majority of FYE students live on campus; 77% did so during the Fall 2018 term.

Figure 1: Racial and Ethnic Composition of Students Enrolled in FYE Courses



¹ One student in this LC was in a different section of PSPS 1010 but was included in the analysis.

FYE students' racial and ethnic composition, captured in Figure 1, is similar to the overall racial and ethnic composition of UTC undergraduates during the Fall 2018 term. Only one student who participated in FYE courses in the Fall 2018 term was not a U.S. Citizen.

Academic Information

Almost all FYE students were classified as Freshmen at the start of the Fall 2018 term (99%) with 1% of students classified as sophomores. Almost all students are part of the Freshman 2018 cohort, with four students part of the Transfer 2018 cohort.

Almost 40% of FYE students had at least some earned college credit at the start of the Fall 2018 term. Numbers of earned credits ranged from three to 43 with 11% of FYE students having more than 15 earned credit hours at the start of the term. Earned credits at the start of the term primarily came through participation in dual enrollment opportunities in high school, Advanced Placement (AP) classes or a combination of the two. Small numbers of students also earned credit through CLEP, IB, community college summer courses in between high school and college, and a summer course at UTC while still in high school. FYE students' incoming academic indicators are captured in Table 2 below.

Table 2: FYE Students' Incoming Academic Indicators

Indicator	FYE Students' Average
High School GPA	3.42
College GPA Transfer	3.31
ACT Composite	23.06
ACT Math Subscore	21.18

Differences Between Student Characteristics by FYE Type

Although overall serving similar populations, there are some differences in characteristics between the students who took traditional FYE courses and students who took learning community courses, captured in Table 3.

Table 3: Traditional and Learning Community FYE Populations Compared

Metric	All FYE	Traditional	Learning Community
Female	62%	59%	64%
Male	38%	41%	36%
American Indian or Alaska Native	0%	0%	0%
Asian	1%	2%	1%
Black or African American	13%	15%	11%
Hispanic	4%	5%	3%
Native Hawaiian or Pacific Islander	0%	0%	0%
Two or More Races	3%	5%	2%
White	74%	71%	78%
Race/Ethnicity Unknown	3%	2%	5%
First Generation	24%	25%	22%
Live on Campus	77%	79%	76%
Classified as Freshmen	99%	100%	98%
Freshmen Cohort Members	99%	100%	99%
Started Term with Earned Credits	38%	35%	42%
Started Term with 15+ Earned Credits	11%	7%	14%
High School GPA	3.42	3.36	3.48
College Transfer GPA	3.31	3.19	3.41
Average ACT Composite	23.06	22.54	23.62
Average ACT Math Subscore	21.18	20.47	21.95

Outcomes

Summary Data

Although persistence to the Spring 2019 term was high at 91%, persistence to the next fall term was somewhat low at 68%. FYE type was not a factor in predicting persistence to the next term or next year. Detailed outcomes are provided in Table 4; each term only reflects students enrolled during that term.

Table 4: Summary of Academic Indicators by Term

	Fall 2018	Spring 2019	Fall 2019
Number of Fall 2018 FYE Students Enrolled	419	381	286 ²
Persistence Rate	n/a	91%	68%
Average Term GPA	2.78	2.44	n/a
Average Term Attempted Credit Hours	14.95	14.57	14.68
Average Term Earned Credit Hours	12.47	12.21	n/a
Students Reaching 30 Credit Hours Start of Term	1	36	199
Students Reaching 30 Credit Hours End of Term	34	206	n/a

Additional data points on outcomes by term and an examination of the students who both persisted to the Fall 2019 term and earned 30 or more credit hours by the start of that term are included in this section. The next section explores students who did not persist.

Persistence to the Next Term

Eighty five percent of students who persisted to the Spring 2019 term earned at least 12 credit hours during the Fall 2018 term. One student who did not enroll in the Spring 2019 term re-enrolled for the Fall 2019 term.

FYE students who persisted to the Spring 2019 semester also had good term GPAs for the Fall 2018 term. The average term GPA for these students was a 2.65 and the average cumulative GPA was a 2.72. Seventy eight percent earned at least a 2.0 term GPA, a key cutoff below which students may not be able to demonstrate satisfactory academic progress that allows them to access financial aid. Almost half of students earned a 3.0 term GPA or higher (45%).

Academic Performance at End of First Year

By the end of the Spring 2019 term, FYE students still enrolled had attempted an average of 35.21 credit hours and earned an average of 30.38 credit hours.

² This number includes one student who did not enroll in the Spring 2019 term but re-enrolled for Fall 2019.

Persistence to the Next Year

Students who were retained to the next year had earned between five and 75 cumulative credit hours by the start of the Fall 2019 term. The average earned credit hours at the start of the term was 34.00.

While FYE or faculty type for FYE courses did not predict retention, there were large differences by individual FYE section – retention rates by section ranged from 43% to 95%, as depicted in Table 5. Interestingly, high-performing sections, highlighted in Table 5, are more often learning communities and more often taught by tenured or tenure-track faculty. This may indicate that some majors or colleges benefit more from the learning community model than others. High performing sections undoubtedly benefit from peer effects but closer examination of them may yield best practices that could benefit all FYE students.

Examining persistence to the next term by FYE section does not predict which sections will be lower-performing on Fall-Fall retention. For example, two sections of the traditional FYE course each had a 95% Fall-Spring retention; one section had 95% Fall-Fall retention and the other had 43% retention.

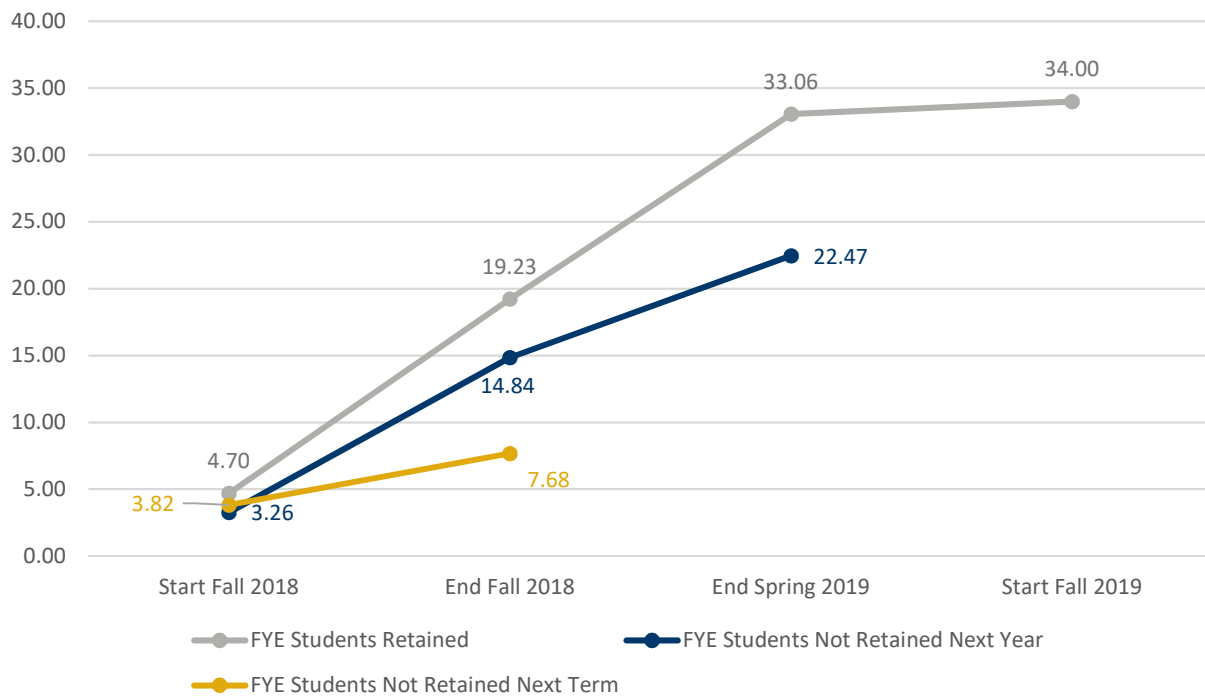
One of the clearest differences to emerge between students who are ultimately retained to the next year and students who are not retained to the next term or next year is credit hour accumulation as shown in Figure 2. Students who are ultimately retained start with slightly more average cumulative earned credits but by the end of that first term there are stark differences in outcomes associated with credit hour accumulation that then amplify over time. This data suggests that intervening with students who are not earning as many cumulative hours may increase retention.

Table 5: Fall-Fall Retention by FYE Section with Characteristics

CRN	FYE Type	Faculty Type	Retention
46581	Traditional	Non-Tenured	64%
46591	Traditional	Tenured/Tenure-Track	60%
46595	Traditional	Tenured/Tenure-Track	73%
46596	Traditional	Non-Tenured	67%
46611	Traditional	Non-Tenured	58%
46612	Traditional	Non-Tenured	60%
46617	Traditional	Non-Tenured	59%
46621	Traditional	Tenured/Tenure-Track	77%
46908	Traditional	Non-Tenured	95%
47612	Traditional	Non-Tenured	43%
50093	Learning Community	Tenured/Tenure-Track	55%
50109	Learning Community	Tenured/Tenure-Track	83%
50118	Learning Community	Non-Tenured	59%
50129	Learning Community	Tenured/Tenure-Track	81%
50160	Learning Community	Tenured/Tenure-Track	50%
50145	Learning Community	Tenured/Tenure-Track	81%
50163	Learning Community	Non-Tenured	78%
50164	Learning Community	Non-Tenured	70%
50185	Learning Community	Tenured/Tenure-Track	75%
50346	Learning Community	Non-Tenured	74%
50393	Learning Community	Tenured/Tenure-Track	67%

Sections with retention rates of 75%+ are highlighted.

Figure 2: Average Cumulative Earned Credit Hours by Retention Status from Start of Fall 2018 to Start of Fall 2019



Students Reaching 30 Credit Hour Progression Benchmark by Fall 2019 Term

In addition to a positive association between credit hour accumulation and retention as depicted in Figure 2, Tennessee’s performance-based funding formula for higher education awards funding based on students reaching progression benchmarks, one of which is earning 30 credit hours. Of the 419 students enrolled in FYE courses, 199 had been retained to the next school year and had earned 30 or more credit hours. This sub-group of retained and progressing students was examined to determine common traits.

FYE Characteristics

Students reaching 30 credit hours by the beginning of the Fall 2019 term were slightly more likely to be enrolled in learning community FYE courses (56% were in learning communities, 44% in traditional FYE courses). This is not surprising given that students who originally enrolled in LC sections were more likely to have existing college credit before their first term at UTC (Table 3). Students were exactly evenly split by faculty type and were fairly evenly distributed among sections.

Demographic Information

Students who are retained to the next year and earned 30 or more credit hours by the start of the Fall 2019 term have a racial and ethnic makeup that almost exactly mirrors that of the overall group of FYE students. Students are less likely to be first gen (18% compared with 24% of overall FYE population). Unlike the overall pool of FYE students, the pool of students who are retained and reach the 30 credit hour mark are somewhat clustered in certain high schools listed below.

Top high schools attended by these students:

1. Soddy Daisy High School – 6%
2. Collierville High School – 3%
3. Chattanooga Christian School – 3%
3. Franklin High School – 3%
3. Maryville High School – 3%
3. White House Heritage School – 3%

Majors

Perhaps related to the high retention rates in some learning community FYE sections, students are clustered in certain majors by the 14th day of the Fall 2019 term. There is some alignment between these majors and learning communities offered (Table 1).

Top majors selected by these students

1. Biology: Preprofessional – 11%
2. Communication – 10%
2. Psychology – 10%
4. Undecided – 5%
5. Criminal Justice – 4%
5. HHP: Exercise Science – 4%

Examining Students Not Retained

The analysis of students not retained separates students who left after the first term and students who did not come back to UTC for their second year. This analysis revealed differences between these two groups of students that may indicate different contributing factors to students' decisions to leave UTC.

Students Not Persisting to Spring 2019 Term (38 students)

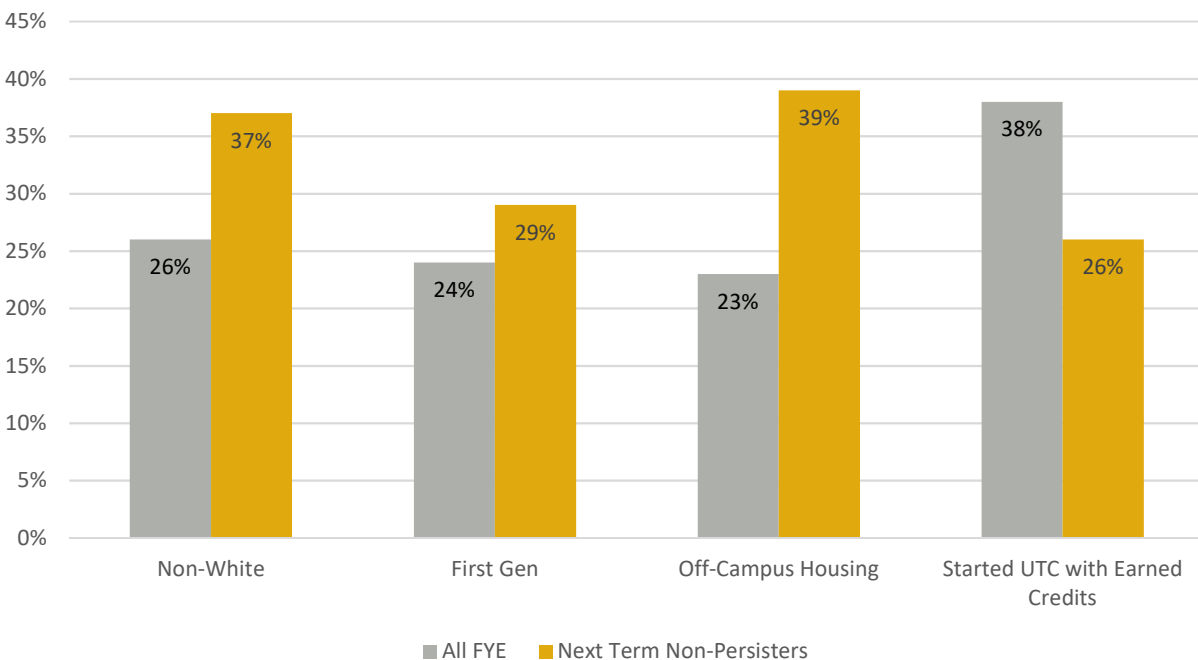
FYE Characteristics

Students who did not persist were very evenly divided by FYE type (53% in traditional FYE and 47% in LC FYE courses) and faculty type for their FYE instructor (53% non-tenured faculty, 47% tenured or tenure track faculty). This suggests that FYE course type and FYE course faculty characteristics did not affect persistence to the next term.

Demographics and Incoming Academic Characteristics

Students who did not persist to the next term differed from the overall FYE population across some characteristics. Some selected characteristics with large discrepancies between the two populations are depicted in Figure 3; for a complete table of characteristic differences for students who were not retained compared with all FYE students, please see Appendix A. In addition to the characteristics depicted, students who did not persist had lower incoming GPAs and average ACT scores than all FYE students. Interestingly, 13% of students who did not persist to the next term had earned over 15 hours of college credit by the start of the Fall 2018 term compared with 11% of all FYE students.

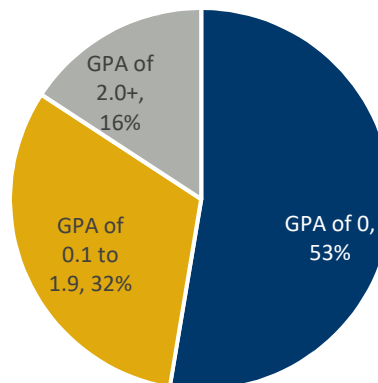
Figure 3: Selected Characteristics of All FYE Students and Students not Persisting to Spring 2019 Term Compared



Academic Performance During Fall 2018 Term

Students who did not persist to the next term attempted between 12 and 19 credit hours during the Fall 2018 term, with 53% of students attempting 15 or more credit hours. However, the majority of students earned less than 10 credit hours (79%) with more than half (53% - 20 students) earning no credit hours. Even so, five students who did not persist earned all their attempted credit hours. Excluding the students who did not earn any credit hours, term GPAs ranged from 0.08 to 4.00, and 16% earned a 2.0 GPA or higher. Student term GPA groupings are depicted in Figure 4.

Figure 4: FYE Students Not Persisting in Term GPA Bands



About half the students who earned no credit hours withdrew from their courses while the other half remained enrolled and failed. Withdrawal status dates occurred throughout late September and all of October of the Fall 2018 term. It seems likely that the students who earn no credit hours decide to leave UTC before the end of the first term rather than completing the term and deciding not to re-enroll. Taking the drastic step of withdrawing or deciding to leave UTC before the end of the first term, rather than completing the first term and then deciding to leave, indicates that these students faced serious challenges, and we cannot tell if those challenges were academic or non-academic in nature.

Taken collectively, this information suggests that students are leaving for a variety of reasons – some are leaving before the end of their first term and thus earning no credit hours, some are completing the term but are struggling academically, and others are completing the term fairly successfully and not re-enrolling. These rough groups of students are associated with the GPA bands depicted in Figure 4.

Students Persisting to Spring 2019 but Not to Fall 2019 (96 Students)

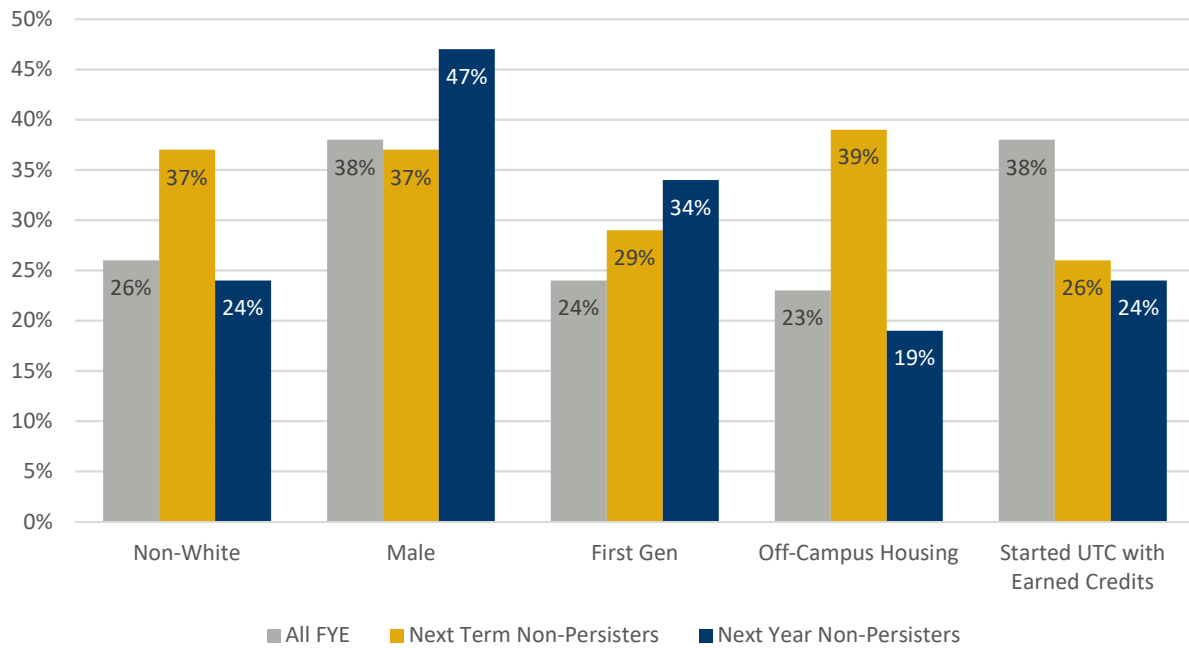
FYE Characteristics

As noted in the outcomes section, FYE type and FYE faculty type do not seem to be salient to whether students persist to their second year. However, individual sections saw wide variance in Fall-Fall retention rates as captured in Table 5.

Demographics and Incoming Academic Characteristics

The group of students who persisted at UTC for their first year but then did not enroll the following year differs from the population who left during or after the first term in some demographic areas as captured in Figure 5. Both groups of students who did not persist were less likely to enter the Fall 2018 term with earned credits and had lower incoming GPAs and ACT scores. For a full comparison of these characteristics, please see Appendix A.

Figure 5: Selected Characteristics of All FYE Students, Students not Persisting to Spring 2019 Term, and Students not Persisting to Fall 2019 Term Compared



Academic Performance During Fall 2018 Term

Students who did not return to UTC for the Fall 2019 term struggled more academically in the Fall 2018 term than students who were retained as captured in Table 6. Four students earned no credit hours, but 61% earned 12 or more credit hours during the first term. Fifty two percent of non-retained students earned a GPA of 2.0 or higher, indicating satisfactory academic progress, but only 22% earned a 3.0 or higher. This data suggests that students who are lower-performing at the end of the first term are at risk of leaving UTC and may benefit from interventions designed to retain them.

Table 6: Fall 2018 Academic Indicators for FYE Students Who Did and Did Not Persist to Fall 2019 Term

Indicator	Persisted to Fall 2019	Did Not Persist to Fall 2019
Number of Students	285	96
Average Term GPA	2.88	1.97
Average Cumulative GPA (End of Term)	2.94	2.05
Average Attempted Credit Hours	15.08	14.64
Average Earned Credit Hours	14.04	11.13

Academic Performance During Spring 2019 Term

Students who did not return to UTC for the Fall 2019 term performed weaker academically in the Spring 2019 term than students who did return as captured in Table 7, and the differences in academic performance between these groups of students was more pronounced. About one in four students did

not earn any credits in the Spring 2019 term (24%), and only 41% earned 12 or more credit hours in that term. Thirty five percent had a GPA of 2.0 or higher and 19% had a GPA of 3.0 or higher. This data suggests that most of the students who are not retained are lower-performing in the Fall term and their academic slide accelerates during the Spring term.

Table 7: Spring 2019 Academic Indicators for FYE Students Who Did and Did Not Persist to Fall 2019 Term

Indicator	Persisted to Fall 2019	Did Not Persist to Fall 2019
Number of Students	285	96
Average Term GPA	2.78	1.42
Average Cumulative GPA (End of Term)	2.90	1.85
Average Attempted Credit Hours	14.85	13.76
Average Earned Credit Hours	13.67	7.86

Conclusion

Although somewhat low rates of Fall-Fall retention among FYE students are discouraging, this analysis reveals some possible areas of focus in order to build on existing success and better retain students in the future.

It may make sense to consider expanding high performing learning communities to see if initial success for those majors or colleges can be expanded upon.

Interviews with instructors and additional information gathering focused on high performing FYE sections could reveal best practices that could be scaled throughout the FYE courses in order to boost retention for all students.

While all students’ retention at UTC is critical, it is difficult to intervene with students who leave UTC during the first months of their first term, as many of the students who did not persist to the Spring 2019 term seem to do. It may make most sense to first focus interventions on students who are lower performing academically in the Fall term in order to prevent lower academic performance in the Spring term and retain these students at UTC the following fall. In particular, examining students with low credit accumulation and GPAs at the end of the first term may be a good place to start.

Appendix A: All FYE, Students Not Retained in First Term, and Students Not Retained in First Year Compared

Metric	All FYE Students	FYE Students Not Retained Next Term	FYE Students Not Retained Next Year
<i>Gender</i>			
Female	62%	63%	53%
Male	38%	37%	47%
<i>Race/Ethnicity</i>			
American Indian or Alaska Native	0%	0%	0%
Asian	1%	3%	2%
Black or African American	13%	18%	6%
Hispanic	4%	5%	5%
Native Hawaiian or Pacific Islander	0%	0%	0%
Two or More Races	3%	5%	5%
White	74%	63%	76%
Race/Ethnicity Unknown	3%	5%	5%
<i>Other Characteristics</i>			
First Generation	24%	29%	34%
Live on Campus	77%	61%	81%
Classified as Freshmen	99%	97%	98%
Freshmen 2018 Cohort Members	99%	95%	99%
<i>Incoming Academics</i>			
Started Fall 2018 Term with Earned Credits	38%	26%	24%
Started Fall 2018 Term with 15+ Earned Credits	11%	13%	10%
High School GPA	3.42	3.24	3.29
College Transfer GPA	3.31	2.59	3.24
Average ACT Composite	23.06	22.47	22.8
Average ACT Math Subscore	21.18	20	20.56