Dual Enrollment

Student Success and Course Outcomes at TBR Colleges

TBR—The College System of Tennessee

Office of Policy and Strategy

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CONTENTS

SUMMARY

This analysis provides an initial look at dual enrolled students at TBR community and technical colleges. Primarily focusing on data from community colleges, this work explores not only which students participate in dual enrollment and in what numbers, but also, for which courses, and with what level of success. We also explore dual enrollment at the Tennessee Colleges of Applied Technology (TCATs), a growing opportunity for TBR colleges to serve high school students through early postsecondary opportunities (EPSOs). The data and analysis presented serves as launching point to begin a broader conversation about student success and potential challenge areas in dual enrollment and other EPSOs.

Enrollment

- From Fall 2009 to Fall 2018, participation in dual enrollment at community colleges more than doubled.
- By the 2017-2018 academic year, dual enrollment experienced steady growth system-wide reaching nearly 19,000 students at community colleges and more than 5,000 students at TCATs.
- Students from all 95 Tennessee counties participated in dual enrollment at TBR community colleges or TCATs in 2017-18.
- Dual enrolled students at community colleges were typically female, white, from urban/suburban counties, and had high levels of academic preparation.
- Dual enrolled students at TCATs were typically male, white, and enrolled in precision production programs, such as industrial maintenance and mechatronics, and programs in mechanic and repair technologies, like welding technology.

Coursetaking and Success

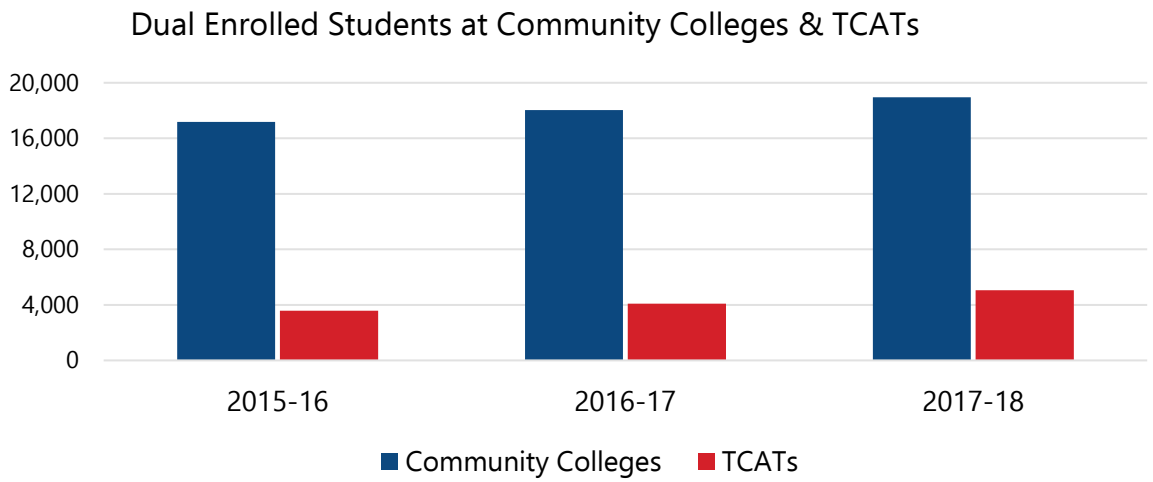
- Dual enrolled students at community colleges predominantly took a general education course load. About a third of course enrollments by these students were in English; another third were in other general education subject areas such as math, history, and psychology.
- Female dual enrolled students outnumbered male dual enrolled students in all but one of the 25 courses with the highest enrollment.
- Dual enrolled students were, in general, highly successful in the courses in which they enrolled. Just over 90% of course enrollments resulted in students receiving a C or higher for their final grade.
- Variability in student success was present by college, course, and student characteristics. Students with higher success rates tended to be female, white, and have higher composite ACT scores on record.

Method of Instruction

- The dominant method of instruction for dual enrolled students' courses was conventional, in-person instruction. The second most common method of instruction was campus-based online instruction.
- For nearly every student subgroup, online courses resulted with a lower success rate among dual enrollees. Dual enrolled students passed 94% of their conventional courses but only 89% of their online courses in 2017-18.
- Gaps between success in conventional and online courses were particularly large for Black students. Black male students received a grade of C or better in only 74% of their online courses, a 12-percentage point drop in performance from conventional courses.

DUAL ENROLLMENT AT TBR COLLEGES

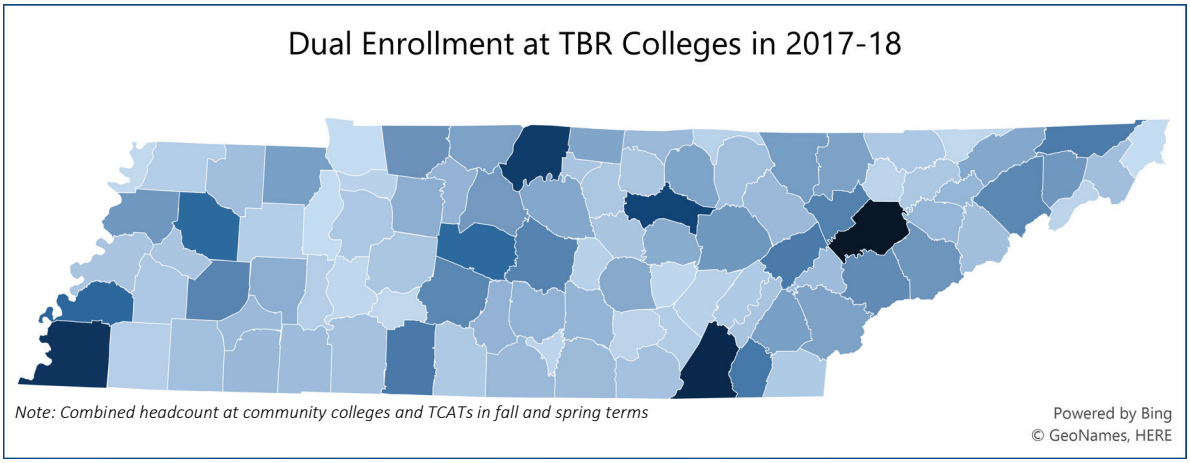
Over the past decade, more than 127,000 high school students in Tennessee have earned college credit through dual enrollment at a TBR community college.[1] From Fall 2009 to Fall 2018, participation in dual enrollment at community colleges more than doubled, from 7,788 students in Fall 2009 to 15,594 students in Fall 2018. Additionally, high school students can benefit from early postsecondary opportunities at the Tennessee Colleges of Applied Technology (TCATs), where more than 5,000 students participated in dual enrollment during the 2017-2018 academic year.



Note: TBR End of Term Data; unduplicated headcount in academic year.

In the 2017-2018 academic year, students from all 95 Tennessee counties participated in dual enrollment at TBR community colleges or TCATs. The five counties with the largest number of dual enrolled students (Knox, Hamilton, Sumner, Shelby, and Putnam) composed nearly one-fifth of all dual enrollments in 2017-18.

Students from all 95 Tennessee counties participated in dual enrollment at TBR community colleges or TCATs in 2017-18.



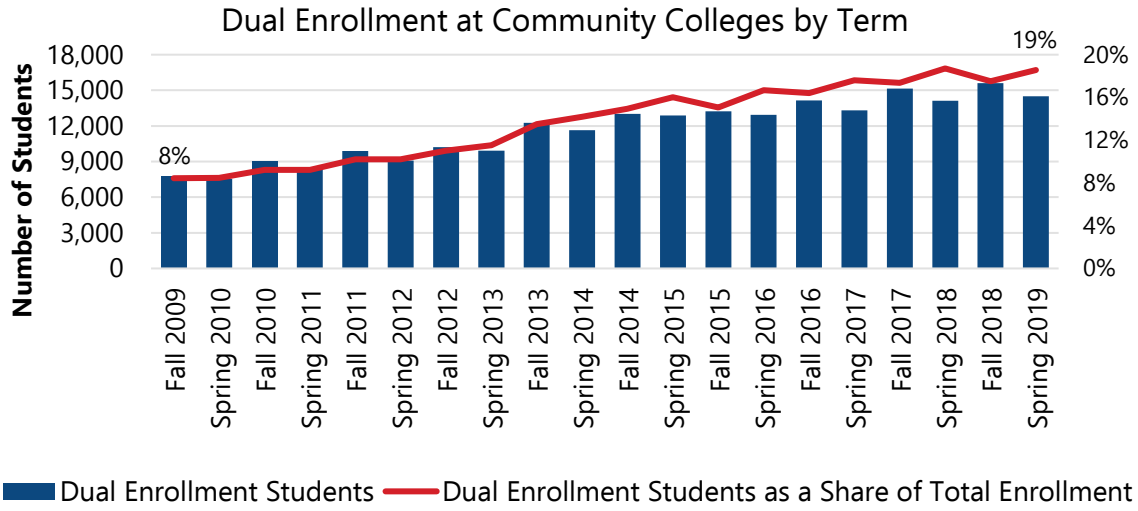
Note: Combined headcount at community colleges and TCATs in fall and spring terms

[1] In Tennessee, dual enrolled students take postsecondary courses, taught either at a postsecondary institution or at a high school, by postsecondary faculty for college credit. The state's dual enrollment grant, which is administered by the Tennessee Student Assistance Corporation, provides opportunities for students to begin working toward a college degree while pursuing a high school diploma. This grant funds tuition and fees for eligible students' first two dual enrollment courses at a community college or for courses at a TCAT. For this analysis, dual enrolled students at community colleges and TCATs are defined as high school students taking courses for credit prior to high school graduation, regardless of whether the student received the dual enrollment grant.

COMMUNITY COLLEGE DUAL ENROLLMENT

Dual Enrollment Trends from 2015 to 2018

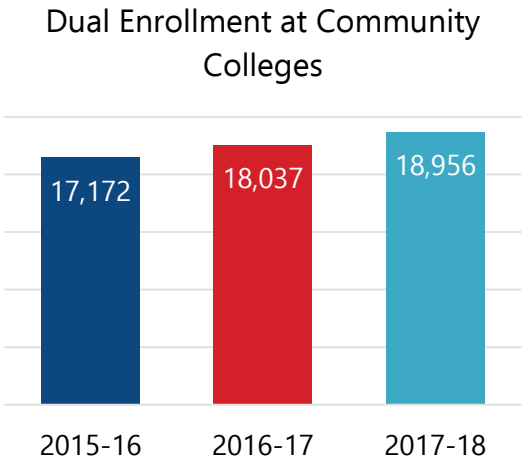
From Fall 2009 to Fall 2018, the number of dual enrolled high school students grew from 8% to 18% of the total student headcount at community colleges. In Fall 2017, for the first time, more than 15,000 dual enrolled students were enrolled at community colleges. In that term, dual enrollment comprised more than a quarter of the total student headcount at four community colleges—Cleveland, Columbia, Dyersburg, and Jackson.

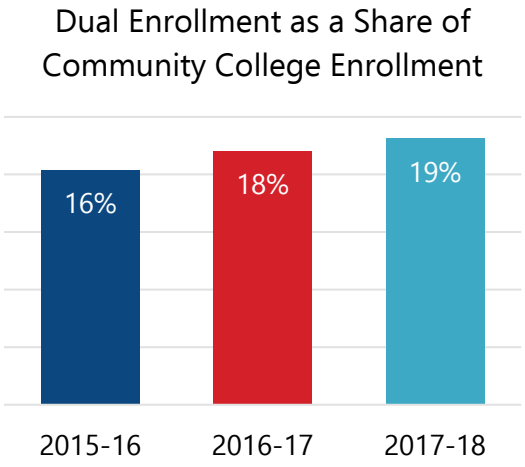


Note: Distinct headcount in fall and spring terms

In fall 2017, for the first time, more than 15,000 high school students were enrolled at TBR community colleges.

Participation in dual enrollment at TBR community colleges grew significantly between the 2015-16 and 2017-18 academic years.[2] The number of dual enrolled students rose from just over 17,000 in 2015-16 to nearly 19,000 in the 2017-18 academic year, growing from 16% to 19% of the total student headcount.



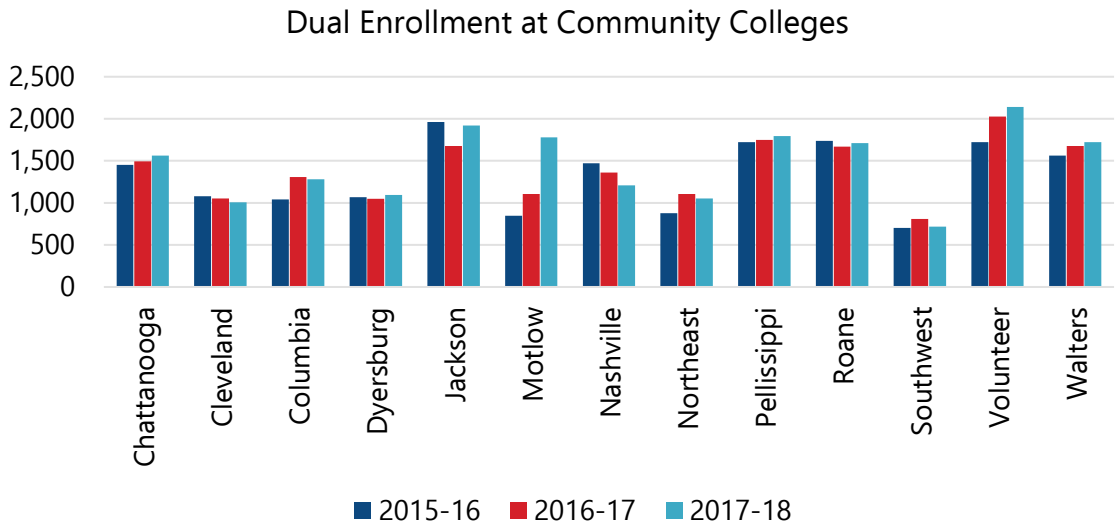


[2] For this analysis, the academic year includes the fall and spring terms. Summer enrollment accounted for less than 0.2% of the distinct dual enrollment headcount during the period explored in this analysis.

Each year, the number of dual enrolled students was slightly higher in the fall than in the spring. Despite this regular fall-off in headcount, dual enrolled students made up a larger proportion of total enrollments in spring terms than the preceding fall terms.

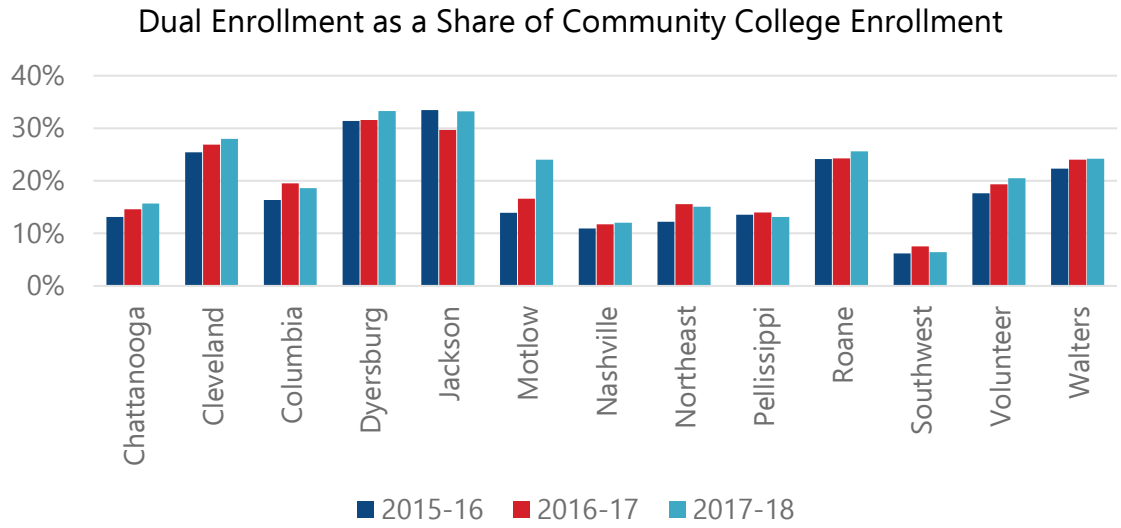
Trends in dual enrollment varied by college. From 2015-16 to 2017-18, Motlow saw the most dramatic increase and rose from the second lowest dual-enrolling college to the fourth highest among TBR community colleges. Only two colleges, Cleveland and Nashville, saw declines in dual enrollment from year-to-year. Additionally, at Nashville and Southwest, fall to spring enrollment trends ran counter to the overall trend; spring headcounts at these colleges were higher than the preceding fall each year.

From 2015-16 to 2017-18, the number of dual enrolled students at Motlow more than doubled, from 848 students to 1,778 students.



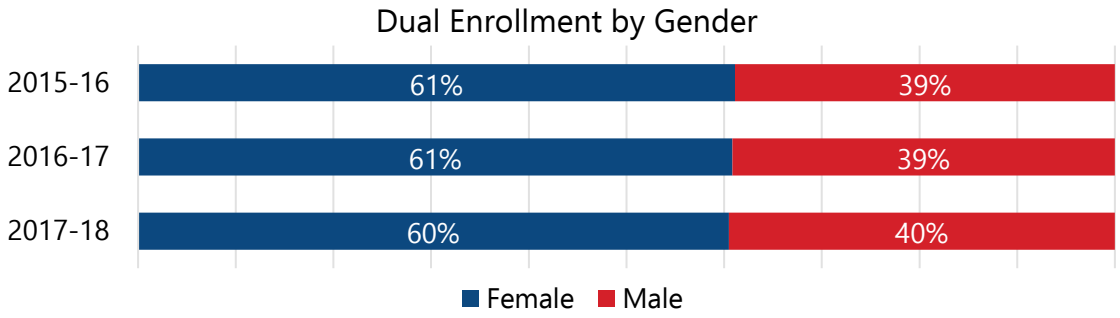
The impact of dual enrollment on college's total enrollment varied widely. In Spring 2018, Dyersburg enrolled nearly 37% of its students through dual enrollment. On the other end of the spectrum, Southwest's dual enrollees accounted for just over 7% of the total headcount in the same term. Motlow's large dual enrollment headcount growth corresponded with a 10-percentage point increase in share of all enrollments from 2015-16 to 2017-18.

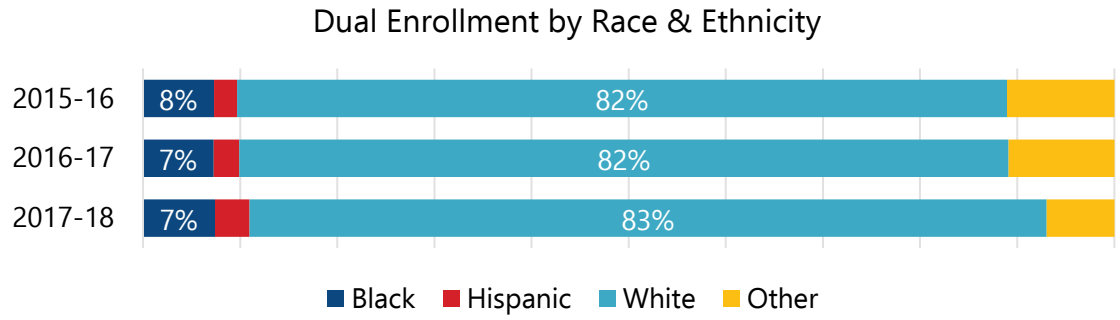
In Spring 2018, nearly 37% of students at Dyersburg were dual enrolled students.



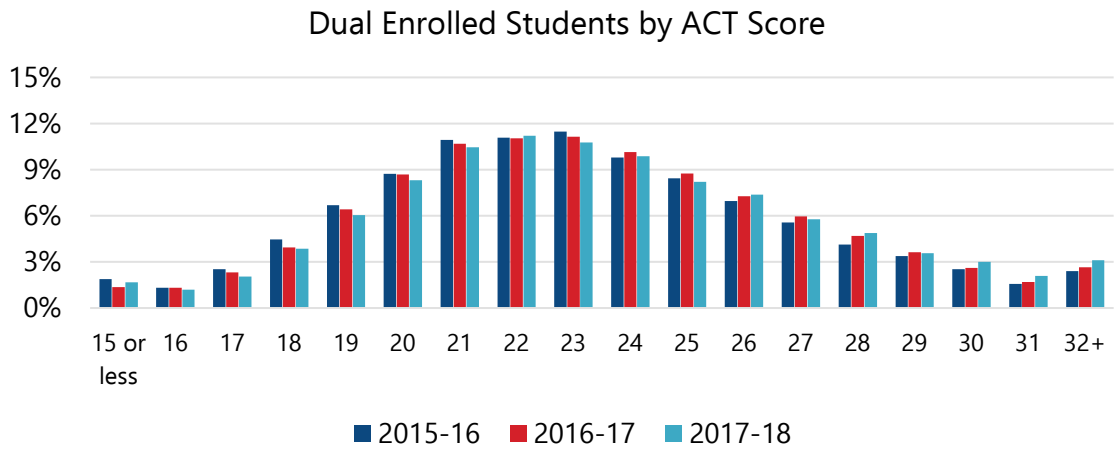
Student Characteristics

Over the time period explored, dual enrolled students were more likely to be female (about 60% in all three years) than male. Dual enrolled students were most likely to be white (83% in 2017-18), and the percentage of students who identified as Black or African American declined slightly from 2015-16 to 2017-18.





From 2015-16 to 2017-18, average ACT scores of dual enrolled students increased slightly, with the distribution of ACT scores experiencing a small, upward shift. Mean ACT scores of dual enrollment students moved from 24.0 in 2015-16 to 24.3 in 2017-18 for those students who had an ACT score on record.[3] Mean male ACT scores (24.6) were lower than female scores (25.8) in 2017-18. In the same year, mean ACT scores were 20.6, 23.1, and 24.5 for Black, Hispanic, and white students respectively. In 2017-18, 95% of students with composite ACT scores on record achieved a 19 or above and 70% of students achieved a 22 or above.[4]

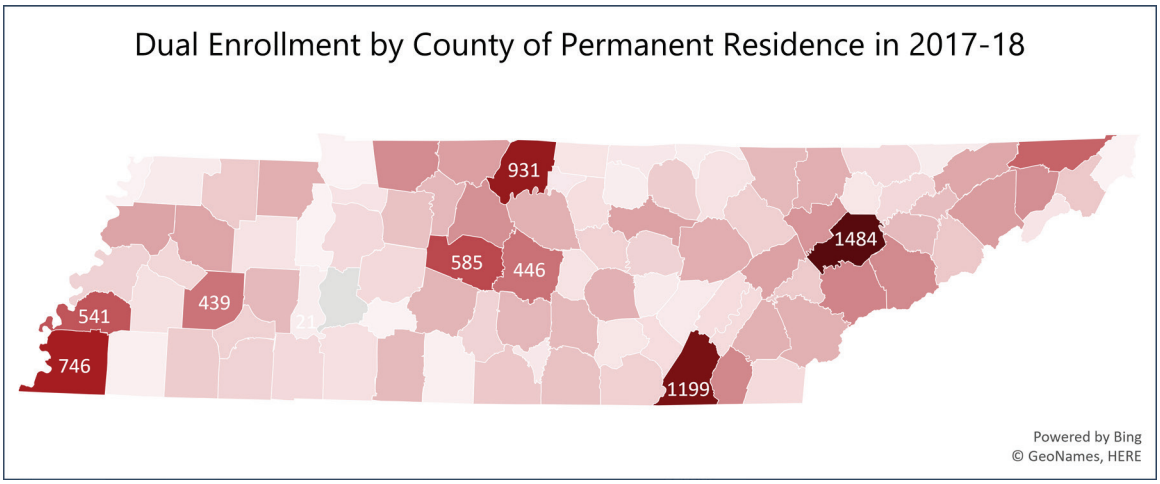


[3] Over the three years explored in this analysis, 25% of dual enrolled students each year had no ACT score on record.

[4] TBR's official admission policy (2:03:00:00) formerly included a required ACT composite score of at least 22 for dual enrollment at community colleges. In March 2018, the Tennessee Board of Regents approved a new policy, 2:01:00:05, specifically addressing Early Postsecondary Opportunities, which has no such ACT requirement. TBR's policy on admissions requires that each community college develop admissions policies in compliance with TBR's policy on Early Postsecondary Opportunities and T.C.A. § 49-6-3111.

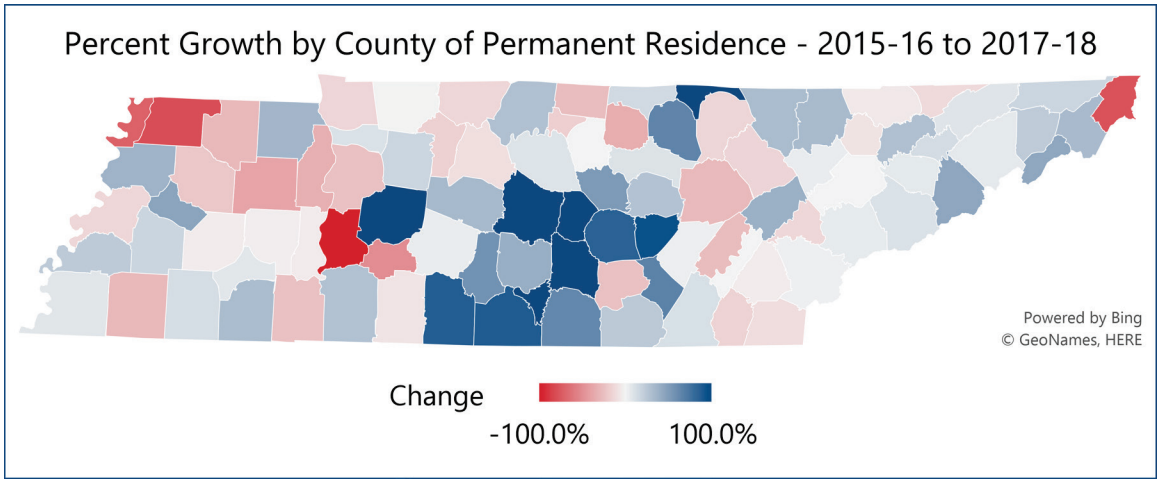
Dual Enrollment by County

Of the 95 Tennessee counties, only Perry County had no students participating in dual enrollment through TBR community colleges during the 2017-18 academic year. The five counties with the largest dual enrollment headcounts (Knox, Hamilton, Sumner, Shelby, and Williamson) made up 26% of all dual enrollments in the 2017-18 academic year.



Growth since the 2015-16 academic year was the largest in the Motlow service area, unsurprising given the rapid rise in dual enrollment headcount at the college. This was particularly driven by extensive growth in Rutherford County (479% since 2015-16). Counties with the largest percentage declines in enrollment were rural areas where dual enrollment particpation that was already very low.

Community college dual enrollment from Rutherford County increased from 77 students in 2015-16 to 446 students in 2017-18, an increase of 479%.



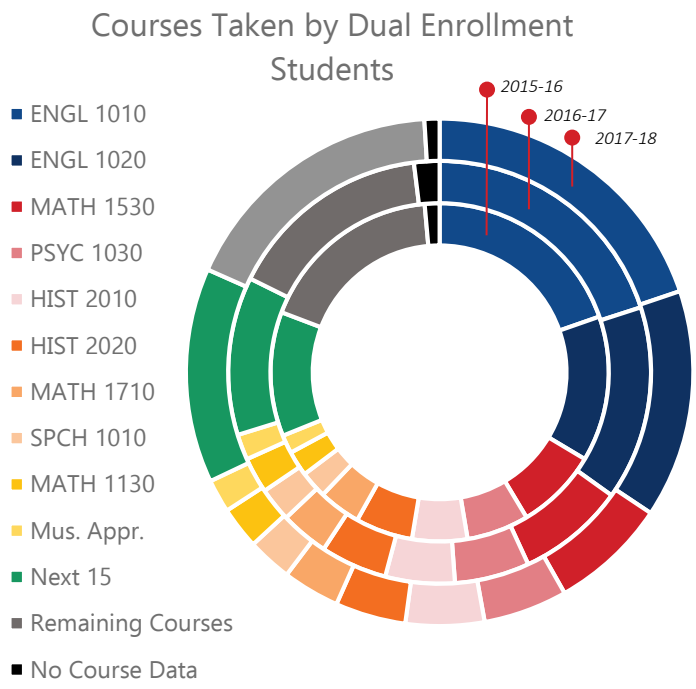
Counties with Highest Growth in Dual Enrollment	
Rutherford County	479%
Pickett County	225%
Coffee County	133%
Hickman County	133%
Cannon County	127%

Counties with Highest Declines in Dual Enrollment	
Lewis County	-50%
Lake County	-71%
Johnson County	-78%
Obion County	-80%
Perry County	-100%

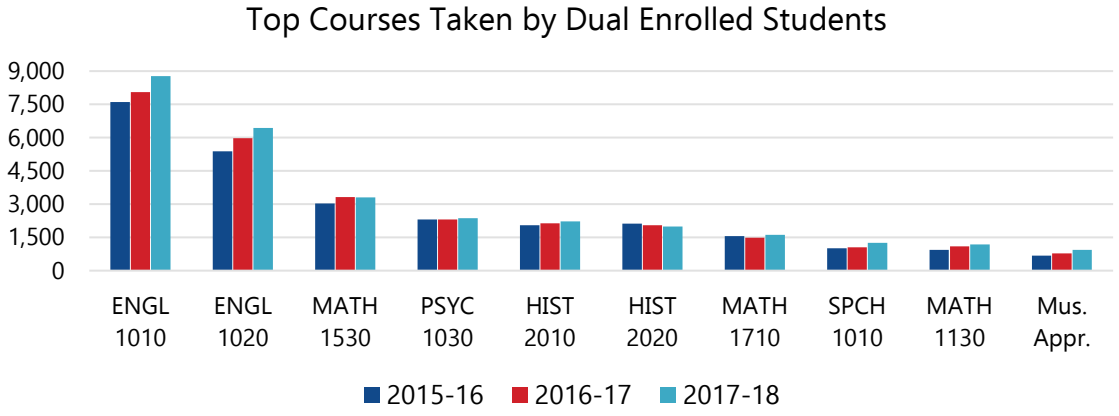
COURSETAKING AND SUCCESS

Course Enrollment Trends

From 2015-16 to 2017-18, dual enrolled students took a consistent set of courses.[5] The figures below show the courses taken by dual enrolled students, including the top 10 most commonly taken courses. Courses in English consistently made up about one third of all courses taken by dual enrolled students. These top courses taken by dual enrolled students fulfill many of the general education requirements at TBR colleges and are expected to be highly transferable.



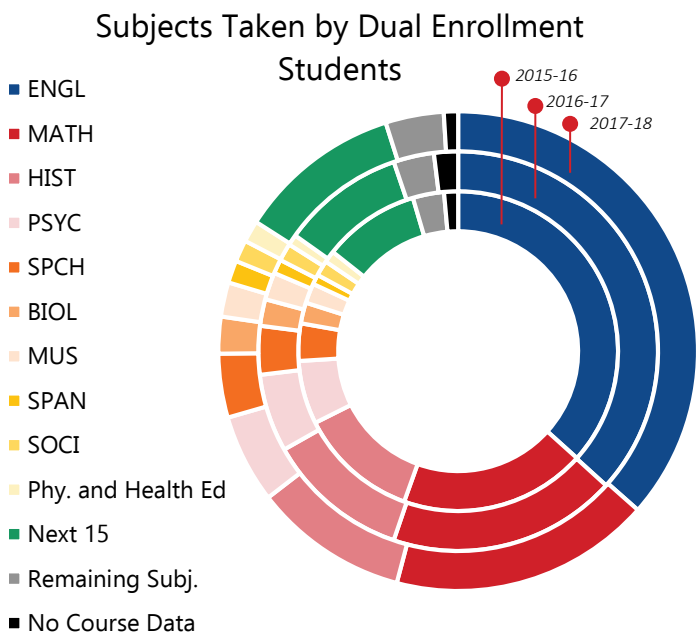
General Education Requirements	Top 10 Most Commonly Taken Courses
English (6)	ENGL 1010 (3), ENGL 1020 (3)
Communication (3)	SPCH 1010 (3)
Humanities/Fine Arts (9)	Music Appreciation (3)
Social/Behavioral Sciences (6)	PSYC 1030 (3)
History (6)	HIST 2010 (3), HIST 2020 (3)
Natural Science (8)	None
Math (3)	MATH 1130 (3), MATH 1530 (3), MATH 1710 (3)



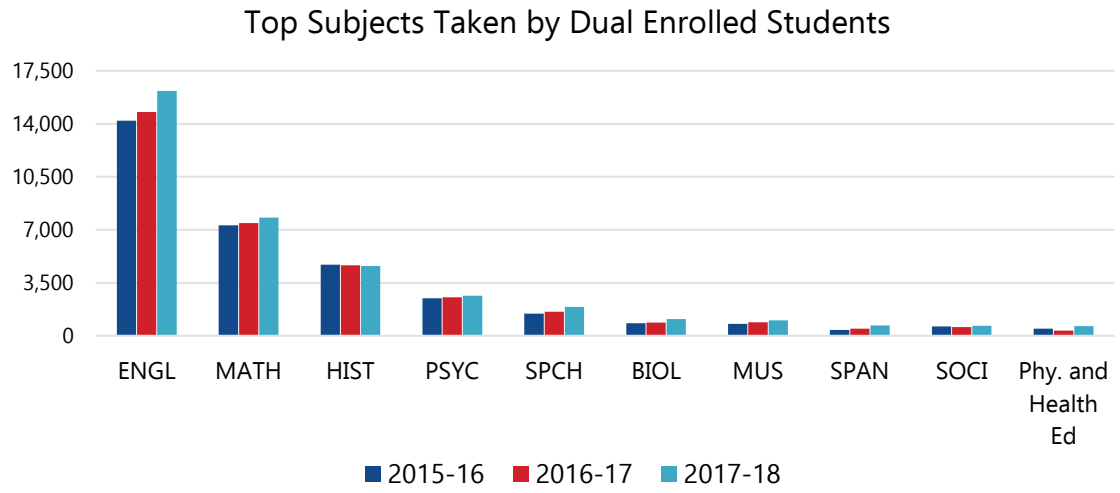
English courses consistently made up about one third of all courses taken by dual enrolled students.

[5] See the glossary on pages 27-28 for course titles and definitions.

The figures below show the coursetaking patterns of dual enrolled students where courses are grouped by subject area.[6] The most popular subject areas, like courses, were concentrated in general education areas.[7] Only 2 of the 10 most popular subject areas fell outside general education requirements, Spanish (SPAN) and Physical and Health Education.



General Education Requirements	Top 10 Most Commonly Taken Subjects
English (6)	ENGL
Communication (3)	SPCH
Humanities/Fine Arts (9)	Music
Social/Behavioral Sciences (6)	PSYC, SOCI
History (6)	HIST
Natural Science (8)	BIOL
Math (3)	MATH
Outside General Education Requirements	SPAN, Physical and Health Education



[6] Of the most frequently taken subject areas, 8 of the top 10 were consistent year to year (English, Math, History, Psychology, Biology, Music, and Sociology). The remaining two courses changed annually and included Art (2015-16, 2016-17), Medical Terminology (2015-16), Spanish (2016-17, 2017-18), and Physical and Health Education (2017-18). None of these subjects were lower than 14th in years they did not make the top 10.

[7] See the glossary on pages 27-28 for course titles and definitions.

Coursetaking by Dual Enrolled Students

The table below shows coursetaking patterns in the top 25 courses for which dual enrolled students registered in the 2017-18 academic year. Female students outnumbered male students in all but one of the top 25 courses. In Medical Terminology courses, 79.7% of all course enrollments were by female students, the highest rate of female enrollment in the top 25 courses. Additionally, 83% of all course enrollments were by white students, and only 6.6% of enrollments were by Black students. However, in college success courses, nearly a third of students were Black, a substantially larger enrollment rate than the combined rate of all courses.

Top 25 Courses	2017-18 Enrollment	Gender (%)		Race/Ethnicity (%)			Colleges with Enrollments
		Male	Female	Black	Hispanic	White	
ENGL 1010	8,777	34.8	61.6	5.3	3.3	84.3	All
ENGL 1020	6,443	36.9	63.1	4.9	3.1	85.2	All
MATH 1530	3,297	36.9	63.1	6.2	2.7	84.8	All
PSYC 1030	2,371	31.1	68.9	5.6	3.7	84.1	All
HIST 2010	2,220	37.3	62.7	3.8	3.3	87.8	All
HIST 2020	1,993	36.7	63.3	3.4	3.1	88.8	All
MATH 1710	1,610	41.4	58.6	6.0	3.2	84.8	12
SPCH 1010	1,260	29.9	70.1	3.6	4.1	86.2	12
MATH 1130	1,189	36.8	63.2	2.8	3.0	85.4	8
Music Appr.	938	35.8	64.2	5.0	2.1	88.0	All
MATH 1720	656	43.4	56.6	8.8	4.1	78.7	12
Public Speaking	642	35.8	64.2	2.6	3.0	86.6	3
SOCI 1010	593	27.0	73.0	5.2	2.2	84.0	All
College Success	572	36.9	63.1	32.9	8.6	52.8	8
Med. Term.	464	20.3	79.7	16.8	3.9	73.3	11
BIOL 1110	442	38.2	61.8	5.9	4.8	84.2	All
Art Appr.	389	32.6	67.4	5.7	4.6	83.8	12
CHEM 1110	324	42.3	57.7	10.2	3.4	81.2	13
MATH 1910	318	55.0	45.0	1.9	5.3	84.9	12
SPAN 1010	315	38.4	61.6	10.5	8.6	73.3	12
INFS 1010	300	41.3	58.7	3.0	1.7	91.0	12
BIOL 1120	298	36.9	63.1	6.4	5.4	83.6	11
POLS 1030	264	36.7	63.3	4.2	3.4	85.2	12
PSYC 2130	249	30.1	69.9	2.8	-	91.6	All
SPAN 1020	239	41.8	58.2	12.1	9.6	69.0	11
All Courses	**44,296**	**38.6**	**61.4**	**6.6**	**3.5**	**83.2**	**All**

Female students outnumbered male students in all but one of the top 25 courses—Math 1910 (Calculus).

Note: TBR Course Data; courses associated with deeper shades of red are more female/white than the total course enrollment. Courses associated with deeper shades of blue are less female/white than the total course enrollment. Subgroups with fewer than 5 students have been suppressed.

Coursetaking by Subject among Dual Enrolled Students

Top 25 Subjects	2017-18 Enrollments	Gender (%)		Race/Ethnicity (%)			Colleges With Enrollments
		Male	Female	Black	Hispanic	White	
ENGL	16,177	37.6	62.4	5.1	3.1	84.6	All
MATH	7,798	40.3	59.7	5.4	3.1	84.4	All
HIST	4,619	37.0	63.0	3.7	3.3	87.7	All
PSYC	2,648	30.8	69.2	5.3	3.5	84.8	All
SPCH	1,906	32.0	68.0	3.4	3.7	86.3	All
BIOL	1,099	33.8	66.2	4.9	4.3	85.1	All
Music	1,025	36.5	63.5	5.0	2.2	87.8	All
SPAN	669	40.1	59.9	9.3	8.7	74.0	12
SOCI	649	27.7	72.3	5.9	2.2	83.4	All
Physical & Health Ed.	644	46.0	54.0	35.9	4.5	53.4	11
College Success	572	36.9	63.1	32.9	8.6	52.8	8
Art	565	34.9	65.1	5.3	5.1	83.4	All
CHEM	549	39.5	60.5	8.2	3.6	81.2	5
Med. Term.	464	20.3	79.4	16.8	3.9	73.3	11
CRMJ	403	41.4	58.6	23.1	3.2	69.7	12
BUSN	338	44.7	55.3	23.4	1.8	67.8	All
ECON	322	39.4	60.6	3.7	3.7	85.4	All
INFS	300	41.3	58.7	3.0	1.7	91.0	12
MECH	296	91.9	8.1	4.1	7.8	76.4	4
POLS	279	37.6	62.4	3.9	3.2	85.7	12
EMR	215	27.0	73.0	3.3	4.2	83.7	3
AIIT	180	82.2	17.8	6.1	10.0	82.2	2
MET	164	84.8	15.2	13.4	7.9	73.8	2
CITC	127	79.5	20.5	10.2	4.7	78.0	10
PHIL	124	37.1	62.9	4.8	-	86.3	11
All Subjects	**44,296**	**38.6**	**61.4**	**6.6**	**3.5**	**83.2**	**All**

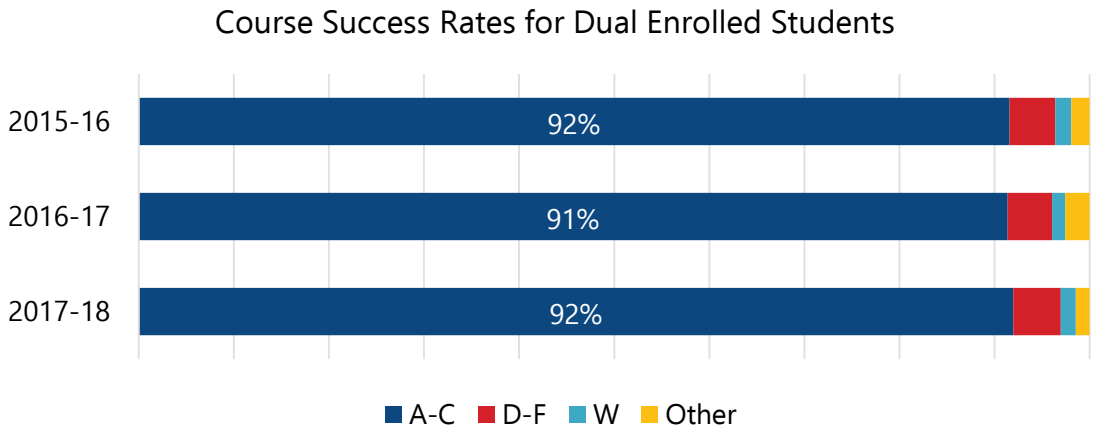
Note: TBR Course Data; courses associated with deeper shades of red are more female/white than the total course enrollment. Courses associated with deeper shades of blue are less female/white than the total course enrollment. Subgroups with fewer than 5 students have been suppressed.

Of the top 25 subject areas with the highest enrollment, student characteristics reflected the overall dual enrolled population.[8] Only a handful of subjects had more male than female students, exclusively in technical subject areas including mechatronics (MECH) and Computer Information Technology (CITC). Variation in race and ethnicity was also present. By subject area, 91% of students in information science courses (INFS) were white compared to just 53% of students in physical and health education courses.

[8] Both Medical Terminology and College Success have been coded as both subjects and courses. See the glossaries on pages 27-28 for further details.

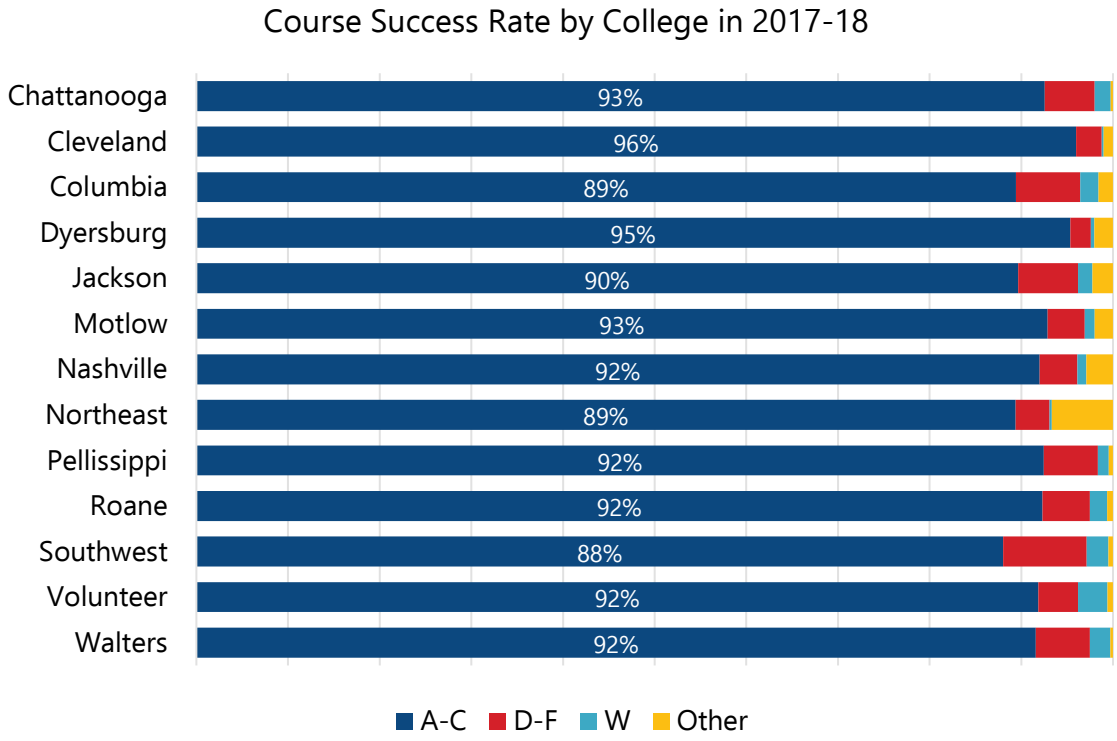
Course Success for Dual Enrolled Students

Across academic years, course success rates were consistently high; each year, dual enrollment students earned a grade of C or higher in more than 90% of courses.[9] By term, average success rates in spring terms were higher than those of preceding fall terms.



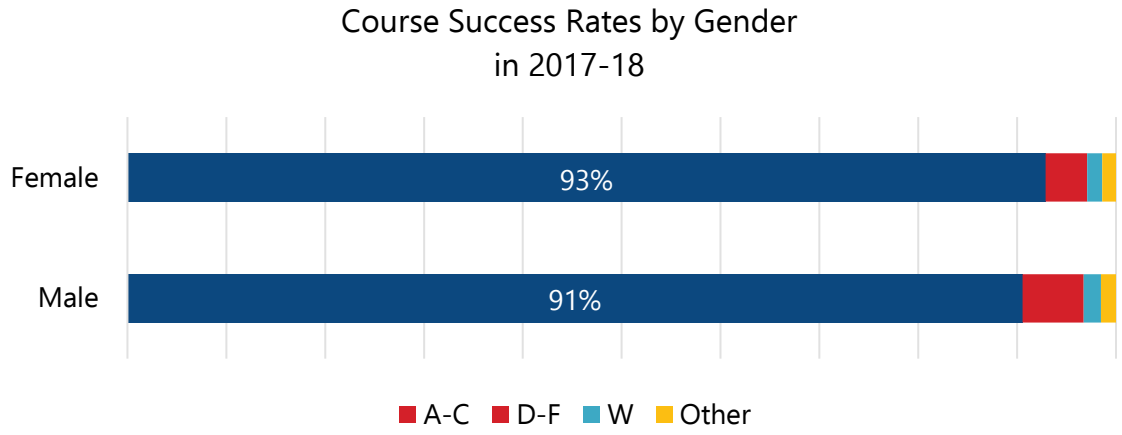
In 2017-18, dual enrolled students earned a grade of C or higher in 92% of their courses.

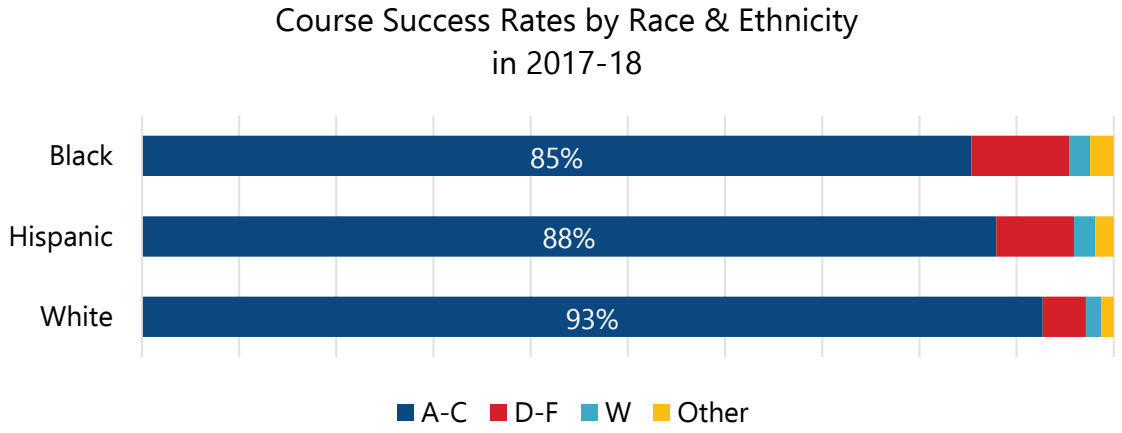
By college, success rates varied, ranging from 96% at Cleveland to 88% at Southwest. Colleges have differing demographic, academic preparation, and course profiles which all may have contributed to this variability.



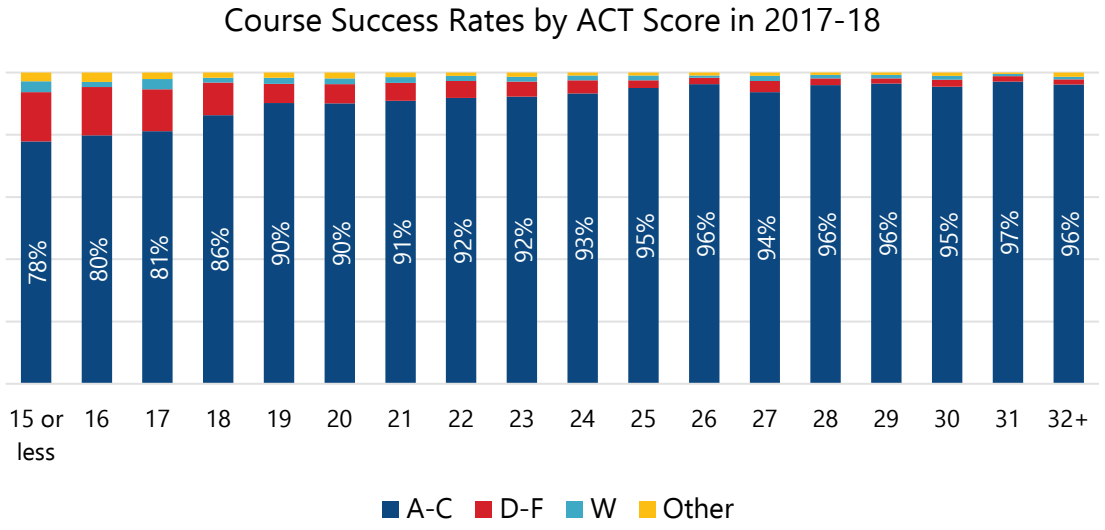
[9] Success is considered a final grade of an A-C; a grade in this range is expected successfully transfer to a future institution. Note: D-F includes grades of FA (failure-attendance related) but not FN (failure-never attended). Grades in the "Other" category include students with no grade on record. This may be a result of misalignment in grade reporting for dual enrollment, dropped courses, or other scenarios. Success rates may be depressed as a result.

Female students had a higher success rate than their male counterparts in 2017-18, as 93% of courses taken by female dual enrolled student resulted in a grade of C or higher. White students had the highest success rate of the groups examined; 93% of courses taken by white students resulted in a grade of C or higher in 2017-18.

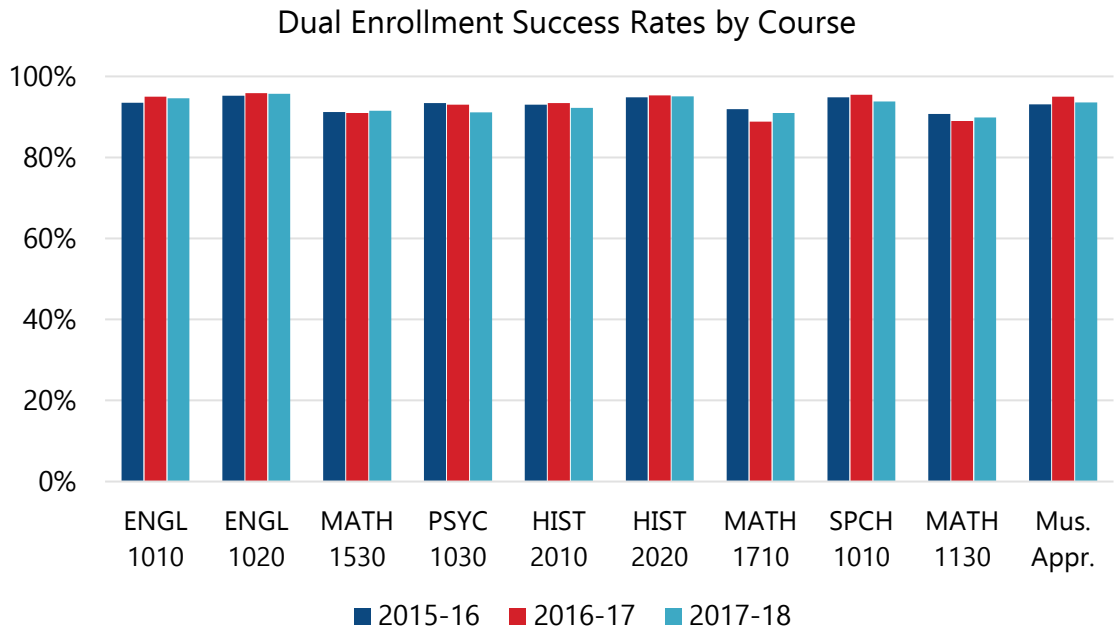


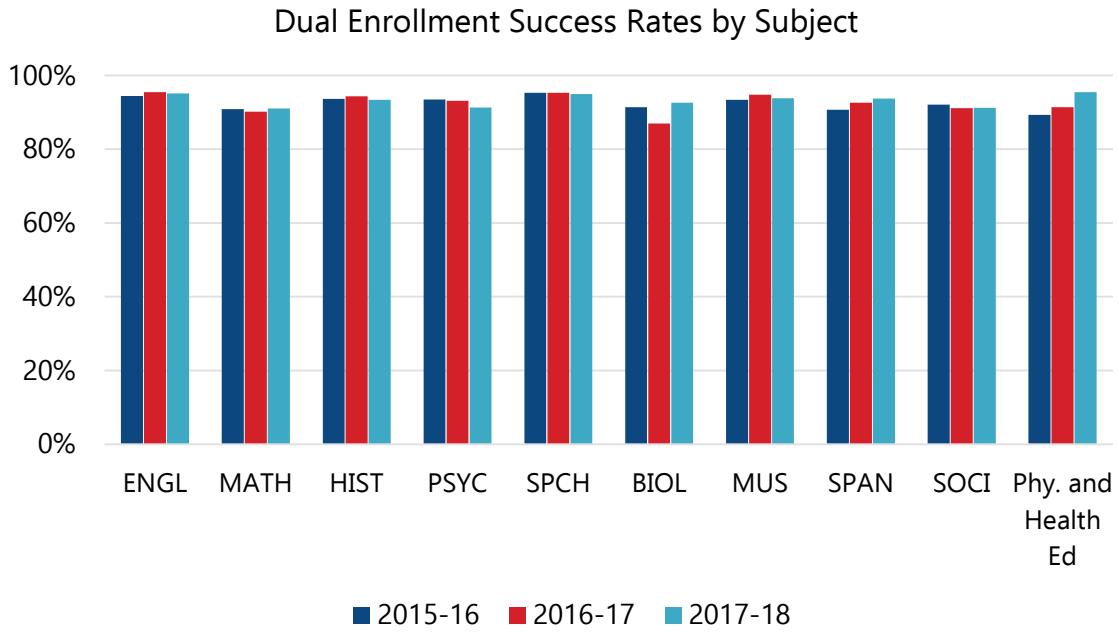


Additionally, higher ACT scores were associated with higher success rates; dual enrollees with a composite ACT score of 19 or above exceeded a 90% success rate.



Course success rates were high across the 10 highest enrollment courses and subjects. The three Math courses with the highest number of dual enrolled students appear to have been slightly more challenging for dual enrolled students compared to other subject areas. Students also appear to have increasingly struggled with PSYC 1030 over time. However, only in a few instances did these commonly taken courses and subjects have success rates below 90%.





Course Success by Dual Enrolled Students

The following two tables show course success by gender and race/ethnicity in the top 25 most enrolled in courses/subjects for the 2017-18 academic year. Success varied by both gender and race/ethnicity across courses/subjects. For example, although female dual enrolled students outperformed male students overall, male students were more successful in a handful of courses, including BIOL 1110, MATH 1910, and SPAN 1010.

Top 25 Courses	2017-18 Enrollment	A-C Rate by Gender (%)			A-C Rate by Race/Ethnicity (%)				Overall A-C Rate (%)
		Male	Female	F-M Gap	Black	Hispanic	White	W-B Gap	
ENGL 1010	8,777	93.3	95.5	2.2	87.6	86.7	95.4	7.8	94.6
ENGL 1020	6,443	94.5	96.3	1.8	91.5	93.0	96.1	4.6	95.7
MATH 1530	3,297	89.4	92.7	3.3	78.5	90.9	92.5	14.0	91.5
PSYC 1030	2,371	89.2	92.0	2.8	80.3	81.8	92.5	12.2	91.1
HIST 2010	2,220	89.9	93.6	3.7	77.7	81.1	93.3	15.6	92.2
HIST 2020	1,993	95.5	94.9	-0.6	95.6	85.5	95.3	-0.3	95.1
MATH 1710	1,610	88.6	92.7	4.1	89.7	88.5	91.1	1.4	91.0
SPCH 1010	1,260	92.6	94.3	1.7	93.3	92.3	93.6	0.3	93.8
MATH 1130	1,189	86.3	92.0	5.7	75.8	91.7	89.9	14.1	90.0
Music Appr.	938	92.0	94.5	2.5	83.0	90.0	94.4	11.4	93.6
MATH 1720	656	94.4	93.3	-1.1	87.9	96.3	94.8	6.9	96.9
Public Speaking	642	96.1	97.3	1.2	-	-	96.8	-	90.9
SOCI 1010	593	89.4	91.5	2.1	87.1	-	91.0	3.9	88.8
College Success	572	92.4	89.5	-2.9	87.2	89.8	93.7	6.5	93.7
Med. Term.	464	85.1	89.7	4.6	73.1	-	91.8	18.7	89.2
BIOL 1110	442	95.3	92.7	-2.6	88.5	85.7	94.9	6.4	86.4
Art Appr.	389	88.2	89.7	1.5	86.4	-	89.0	2.6	89.0
CHEM 1110	324	84.7	87.7	3.0	72.7	-	87.8	15.1	93.0
MATH 1910	318	90.3	87.4	-2.9	-	-	89.3	-	90.0
SPAN 1010	315	94.2	92.3	-1.9	93.9	96.3	91.8	-2.1	95.0
INFS 1010	300	86.3	92.6	6.3	-	-	90.1	-	95.8
BIOL 1120	298	95.5	94.7	-0.8	-	-	95.6	-	93.8
POLS 1030	264	94.8	96.4	1.6	-	-	95.6	-	93.2
PSYC 2130	249	89.3	94.8	5.5	-	-	94.7	-	92.1
SPAN 1020	239	91.0	92.8	1.8	96.6	95.7	90.3	-6.3	95.7
All Courses	**44,296**	**90.6**	**92.9**	**2.2**	**85.3**	**87.9**	**92.7**	**7.4**	**92.0**

Note: TBR Course Data; success rates for groups with less than 20 enrollments have not been included. Courses associated with deeper shades of red have a higher gap than the overall gap. Courses associated with deeper shades of blue have a lower gap than the overall gap.

Course Success by Subject among Dual Enrolled Students

Top 25 Subjects	A-C Rate by Gender (%)			A-C Rate by Race/Ethnicity (%)				Overall A-C Rate (%)
	Male	Female	F-M Gap	Black	Hispanic	White	W-B Gap	
ENGL	93.8	95.9	2.1	89.0	89.4	95.7	6.7	95.1
MATH	89.4	92.0	2.6	79.9	90.9	91.6	11.7	91.0
HIST	92.4	94.0	1.6	86.0	82.1	94.0	8.0	93.4
PSYC	89.2	92.2	3.0	78.0	81.5	92.7	14.7	91.3
SPCH	93.9	95.3	1.4	92.2	94.4	94.6	2.4	94.9
BIOL	92.7	92.6	-0.1	90.7	80.9	94.0	3.3	92.6
Music	92.5	94.5	2.0	84.3	91.3	94.4	10.1	93.8
SPAN	93.7	93.8	0.1	95.2	96.6	92.7	-2.5	93.7
SOCI	89.4	91.9	2.5	89.5	-	91.1	1.6	91.2
Physical & Health Ed.	95.9	95.1	-0.8	96.5	96.6	95.3	-1.2	95.5
College Success	92.4	89.5	-2.9	87.2	89.8	93.7	6.5	90.6
Art	86.8	90.2	3.4	83.3	93.1	89.4	6.1	89.0
CHEM	87.1	90.1	3.0	77.8	85.0	89.2	11.4	88.9
Med. Term.	85.1	89.7	4.6	73.1	-	91.8	18.7	88.8
CRMJ	85.0	89.4	4.4	84.9	-	89.3	4.4	87.6
BUSN	87.4	87.7	0.3	92.4	-	89.1	-3.3	87.6
ECON	86.6	87.7	1.1	-	-	88.7	-	87.3
INFS	86.3	92.6	6.3	-	-	90.1	-	90.0
MECH	86.8	95.8	9.0	-	95.7	85.8	-	87.5
POLS	94.3	96.0	1.7	-	-	95.0	-	95.3
EMR	89.7	86.6	-3.1	-	-	87.8	-	87.4
AIIT	96.6	100.0	3.4	-	-	98.0	-	97.2
MET	89.2	84.0	-5.2	95.5	-	89.3	-6.2	88.4
CITC	84.2	84.6	0.4	-	-	86.9	-	84.3
PHIL	89.1	92.3	3.2	-	-	92.5	-	91.1
All Subjects	**90.6**	**92.9**	**2.3**	**85.3**	**87.9**	**92.7**	**7.4**	**92.0**

Note: TBR Course Data; Success rates for groups with less than 20 enrollments have not been included. Courses associated with deeper shades of red have a higher gap than the overall gap. Courses associated with deeper shades of blue have a lower gap than the overall gap.

Additionally, while in general white students had higher rates of success than Black and Hispanic students, in several subjects, including Spanish (SPAN), Mechatronics (MECH), and Mechanical Engineering Technology (MET), Black and Hispanic students succeed at higher rates than their white peers. The largest white-black gap was in Medical Terminology, where 91.8% of white students and 73.1% of Black students passed with a grade of C or better, particularly notable because these courses had a high rate of black student enrollment.

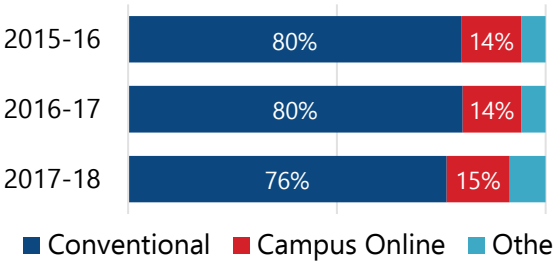
Method of Instruction

Enrollment

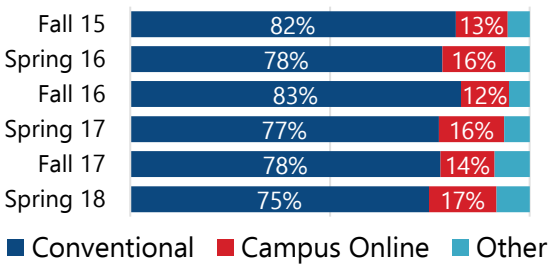
By a substantial margin, dual enrolled students at community colleges typically took courses offered through a conventional method of instruction (in-person at either a community college or at a high school). Since 2016, however, conventional course enrollments have seen a small decline in share, and enrollments in online courses increased slightly. In 2017-18, 76% of courses taken by dual enrolled students were through conventional courses, while 15% were taken through campus-based online courses. The remaining 9% were offered through other methods, like TN eCampus online courses or hybrid courses that combine online and conventional methods of instruction.

In 2017-18, 15% of courses taken through dual enrollment were online courses.

Dual Enrollment Courses by Method of Instruction

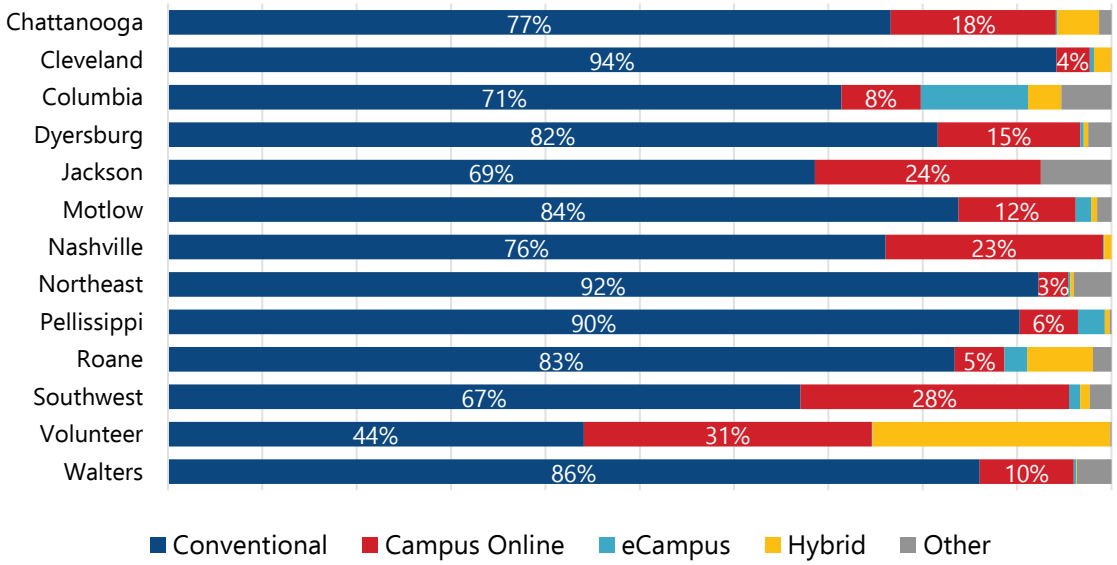


Dual Enrollment Courses by Term & Method of Instruction



Coursetaking patterns among dual enrolled students differed by community college. At Volunteer in 2017-18, only 44.1% of courses taken by dual enrollees were conventional courses. Meanwhile, at Cleveland, 94.2% of dual enrollment courses were conventional courses, the highest among TBR colleges. Additionally, at Columbia, online courses offered through TN eCampus (11.4%) were more popular than campus-based online courses. Volunteer had the most hybrid course enrollments by a substantial margin, with 25% of course enrollments in this method of instruction.

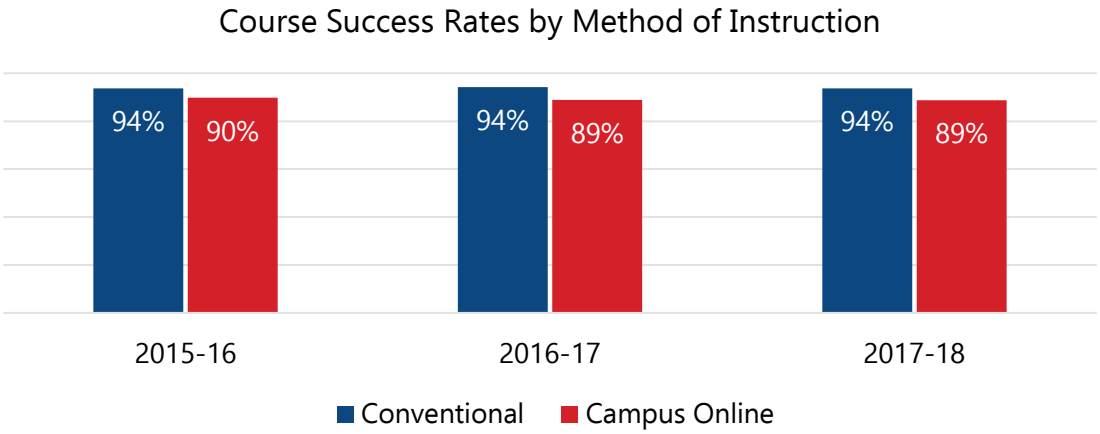
Method of Instruction by College in 2017-18



Male students were slightly more likely to take conventional courses than female students. Black students were more likely than other racial groups to take conventional courses, although only marginally more than Hispanic students. In 2017-18, 82% of black male enrollments were in conventional courses, the most of gender and racial/ethnic combination. White female students took the smallest share of their courses through conventional methods (75%) and were also the most likely to take courses through campus-based online classes (16%).

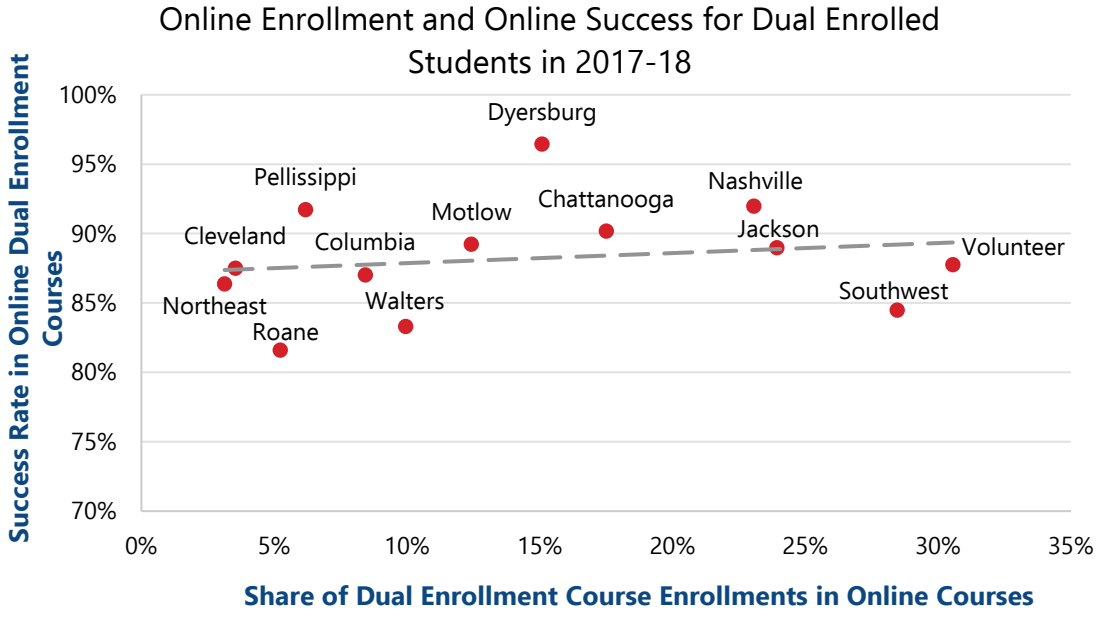
Course Success by Method of Instruction

Over the period examined, dual enrolling students were less successful in campus online courses than in conventional courses. Both success rates were largely stable over time, suggesting there are persistent factors that led students to perform worse in campus online courses than their conventional counterparts.



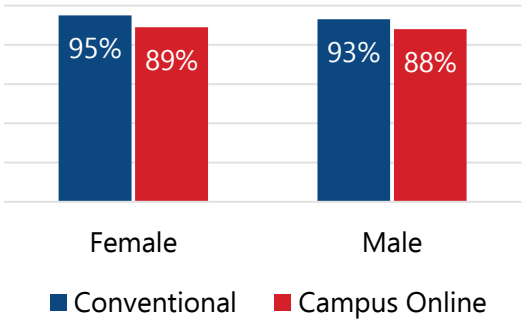
Dual enrolled students passed 94% of conventional courses but only 89% of online courses in 2017-18.

Success rates by method of instruction varied substantially by college. In 2017-18, Dyersburg students had near identical success rates in both conventional and online methods of instruction while Roane students in conventional courses outperformed those in campus online by an over 11-percentage point margin. However, as the figure below shows, the share of a campus's enrollments in online courses was not correlated with success rates in online courses.

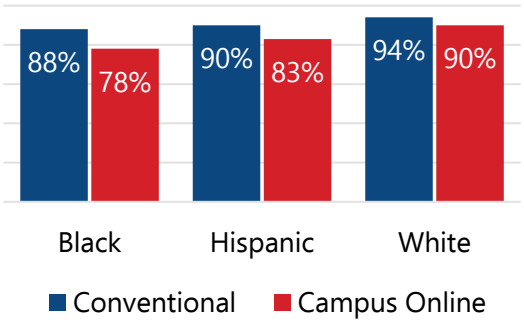


Both male and female students were 5 percentage points less successful in online courses than conventional courses. White students outperformed other racial/ethnic groups in campus online courses but still performed 4 percentage points worse than in conventional courses. For both Hispanic and Black students, the gap in success between conventional and online courses is even larger at 6.7 and 10.5 percentage points respectively. Black male students received a grade of C or better in only 74% of their online courses, a 12-percentage point drop in performance from conventional courses, the largest gap among all combined gender and racial/ethnic groups.

Course Success Rates by Gender in 2017-18

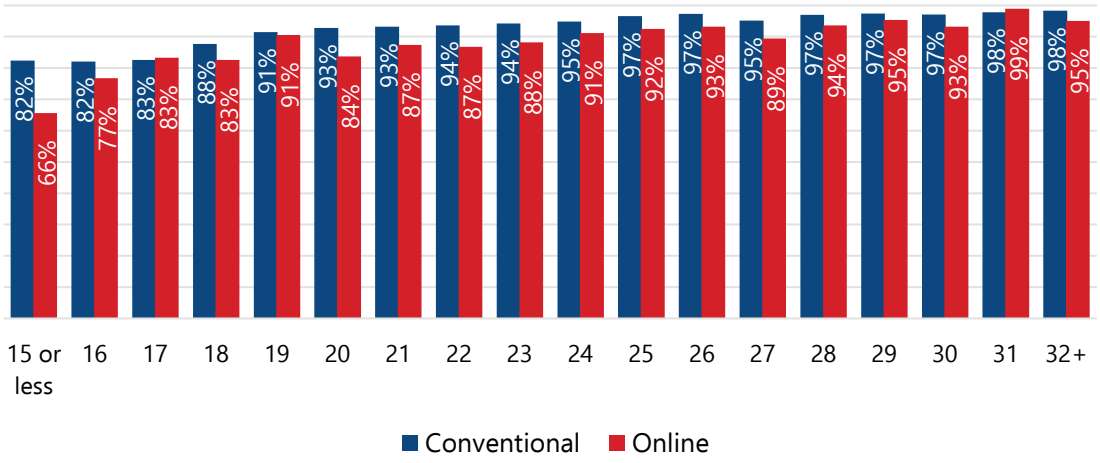


Course Success Rates by Race & Ethnicity in 2017-18



Additionally, at nearly every level of academic preparation, students performed worse in campus online courses, although gaps between conventional and campus online courses decreased among students with higher ACT scores. Among students with an ACT score of 23 (the median ACT score among dual enrolled students in 2017-18), the course success rate was 94% for conventional courses and 88% for online courses.

Course Success Rates by ACT Score in 2017-18



Course Success by Method of Instruction

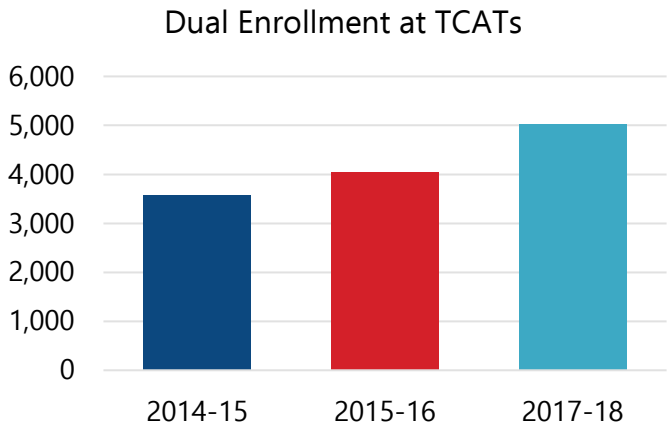
The table below shows the success rates of dual enrolled students by subject area in the 2017-18 academic year. In high enrollment English courses, success rates for dual enrolled students in online courses were 5.6 percentage points lower than success rates in conventional courses. In technical courses including Medial Terminology and SURG, success rates in online courses were 24 percentage points lower than in conventional courses. Of the 25 subject areas with the highest number of dual enrolled students in 2017-18, students in online courses outperformed students in conventional courses in only two subject areas, political science (POLS) and humanities (HUM).

Top 25 Online Subjects in 2017-18	Ratio of Conventional to Online Enrollments	Online A-C Rate (%)	Conventional A-C Rate (%)	Online-Conventional Gap
ENGL	7.7	90.3	95.9	-5.6
MATH	5.3	87.7	92.0	-4.3
HIST	3.2	92.4	93.7	-1.3
PSYC	3.1	88.9	91.2	-2.3
Music	1.8	91.5	95.7	-4.2
SOCI	1.4	86.2	94.7	-8.5
SPCH	5.8	86.6	96.2	-9.6
Art	1.5	88.8	89.9	-1.1
AIIT	0.4	97.6	97.9	-0.3
Medical Terminology	2.3	70.5	94.9	-24.4
POLS	1.2	96.4	94.9	1.5
BUSN	2.0	79.8	95.6	-15.8
ECON	1.8	87.2	88.9	-1.7
SPAN	5.5	83.1	95.1	-12.0
INFS	24.1	77.4	93.6	-16.2
Physical & Health Ed.	1.5	91.7	95.9	-4.2
BIOL	5.8	80.0	93.1	-13.1
SURG	1.0	63.6	87.9	-24.3
CITC	2.8	75.0	89.7	-14.7
CHEM	20.4	69.2	90.0	-20.8
PHIL	2.8	82.6	92.3	-9.7
THEA	4.1	85.0	96.3	-11.3
AGRI	1.2	83.3	100.0	-16.7
HRPR	0.0	93.3	-	-
HUM	3.7	93.3	92.7	0.6
All Subjects with Online Enrollments	**5.0**	**88.8**	**96.8**	**-8.0**

TCAT Dual Enrollment

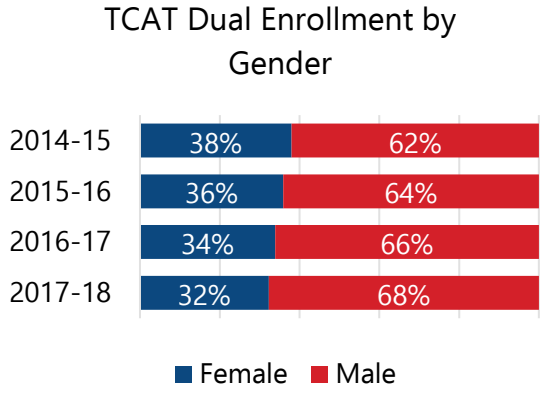
From 2014-2018, more than 12,000 high school students participated in dual enrollment at the state's 27 Tennessee Colleges of Applied Technology (TCATs).

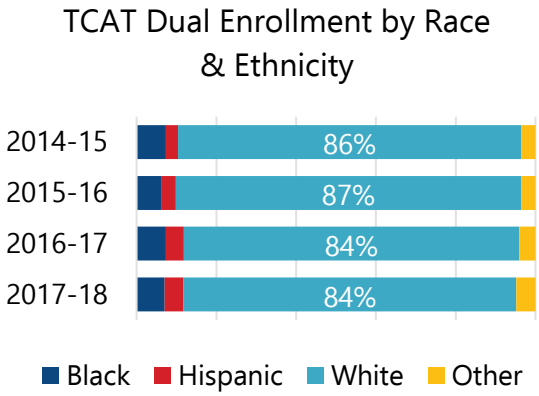
Dual enrollment at TCATs reached over 5,000 students in the 2017-18 academic year. More than a third of all TCAT dual enrollment was concentrated at three colleges: TCAT Hartsville, TCAT Livingston, and TCAT Pulaski.



In 2017-18, 68% of TCAT dual enrolled students were male compared to 40% of community college dual enrolled students. In the same year, 84% of dual enrolled students at TCATs were white.

In 2017-18, more than 5,000 high school students enrolled in dual enrollment programs at TCATs.





The most popular TCAT dual enrollment programs were health profession programs, including practical nursing; precision production programs, such as industrial maintenance and mechatronics; and programs in mechanic and repair technologies, like welding. In fact, the number of dual enrolled students in welding technology diploma and certificate programs at TCATs nearly tripled from 2014-15 to 2017-18.

About the Data

The data included in this analysis is end-of-term data from the TBR student information system.

Enrollment data reflects all students enrolled at any time in a given term at the reporting college.

Dual enrolled students are high school students enrolled in one or more courses for credit prior to high school graduation at a community college or TCAT, regardless of whether the student received the dual enrollment grant.

Course enrollments and success rates are based on end-of-term collections by TBR.

Subject Code Glossary

Subject codes are not identical for all colleges. Cases where multiple codes are used for identical subject areas are identified below. Subject codes are subject to change annually and may not be represented in a given year.

AGRI – Agriculture

AIIT – Advanced Integrated Industrial Technology; includes subject code AIT.

Art – This is an aggregate of subject codes ART, ARTH, ARTP, and PHO.

BIOL – Biology; includes subject code ESC (Environmental Science) which has since been folded into BIOL. Excludes BIOL 1000 (Medical Terminology) at Nashville.

BUSN – Business

CHEM – Chemistry

CITC – Computer Information Technology

College Success – College Success courses are housed in several subject areas across colleges and have been aggregated into an independent subject code for this analysis. Courses include ACAD 1100, COLL 1500, CSBU 1000, CSED 1000, CSEG 1000, CSFA 1000, CSHS 1000, CSHU 1000, CSIS 1000, CSMS 1000, CSSB 1000, EDUC 1010, EDUC 1030, GEN 1000, NSCC 1000, NSCC 1010, ORN 1010, and VSCC 1000.

CRMJ – Criminal Justice

ECON – Economics

EMR – Emergency Medical Responder; includes subject codes EMSR and EMT.

ENGL – English

HIST – History

HUM – Humanities

HRPR – Health Related Professions

INFS – Information Science

MATH – Mathematics

MECH – Mechatronics

Medical Terminology – TBR's 3 credit Medical Terminology courses are housed in several subject areas across colleges but are likely to fulfill the same role if transferred. These have been aggregated into an independent subject code for the purposes of this analysis. Medical Terminology includes all 3 credit Medical Terminology courses, identified by course title. This includes courses ADMN 1306, ADMN 2910, AHC 115, AHS 1020, BIOL 1000, HCDS 1102, HE 103, HIMT 1300, HIT 1010, HIT 107, HSC 111, MDTR 1015, NRSG 1370, NURS 1050, and OFMG 1100. This excludes courses ALH 118 (2 credits), MDTR 1010 (5 credits) and ADMN 2325 (Medical Terminology II).

MET – Mechanical Engineering Technology; includes subject codes MD and MN.

Music – This is an aggregate of subject codes MUS, MUSA, and MUSP.

Physical and Health Education – While Physical Education courses are exclusively housed in PHED, Health Education courses, are housed in PHED and several additional subject codes. In particular, 3 credit Health and Wellness courses are housed under 8 subject codes across TBR, including PHED. Due to the diversity of subject codes for this course and the overlap with Physical Education course coding, all subject codes housing 3 credit Health and Wellness courses have been aggregated into a single subject; Physical and Health Education includes subject codes HED, HLSC, HPE, HPER, HPRO, PE, PHED, and WELL.

PHIL – Philosophy; includes subject code ETHC (Ethics).

POLS – Political Science; includes subject code POL.

PSYCH – Psychology

SOCI – Sociology; includes subject code SOC.

SPAN – Spanish

SPCH – Speech

SURG – Surgical Technology

THEA – Theater

Course Code Glossary

Course titles are not identical for all colleges. Course titles, subject codes, and course codes are subject to change annually and may not be represented in a given year.

Art Appreciation – Art Appreciation includes codes ART 1030, ARTA 1030, and ARTH 1030. Courses are titled Art Appreciation, Introduction to Visual Art, or similar.

BIOL 1110 – General Biology I

BIOL 1120 – General Biology II

CHEM 1110 – General Chemistry I

College Success – College Success courses are listed under several course title-subject code combinations across colleges. These courses have been aggregated for this analysis due to their similar function. Courses include ACAD 1100, COLL 1500, CSBU 1000, CSED 1000, CSEG 1000, CSFA 1000, CSHS 1000, CSHU 1000, CSIS 1000, CSMS 1000, CSSB 1000, EDUC 1010, EDUC 1030, GEN 1000, NSCC 1000, NSCC 1010, ORN 1010, and VSCC 1000.

ENGL 1010 – (English) Composition I

ENGL 1020 – (English) Composition II

ENGL 2110 – American Literature I

HIST 2010 – (Survey of) US History I

HIST 2020 – (Survey of) US History II

INFS 1010 – Computer Applications

MATH 1130 – College Algebra

MATH 1530 – Probability and Statistics

MATH 1710 – Pre-Calculus I

MATH 1720 – Pre-Calculus II

MATH 1910 – Calculus (and Analytic Geometry) I

Medical Terminology – Medical Terminology includes all 3 credit Medical Terminology courses, identified by course title. This includes courses ADMN 1306, ADMN 2910, AHC 115, AHS 1020, BIOL 1000, HCDS 1102, HE 103, HIMT 1300, HIT 1010, HIT 107, HSC 111, MDTR 1015, NRSG 1370, NURS 1050, and OFMG 1100. This excludes courses ALH 118 (2 credits), MDTR 1010 (5 credits) and ADMN 2325 (Medical Terminology II).

Music Appreciation – Music Appreciation includes course codes MUS 1030 and MUSA 1030. As of 2017-18, only Motlow uses MUSA 1030. Courses are titled Music Appreciation or similar.

POLS 1030 – American Government

PSYC 1030 – General Psychology

PSYC 2130 – Life Span Psychology

Public Speaking – Public Speaking includes SPCH 103, SPCH 2100, SPCH 2300. Courses are titled Public Speaking or similar.

SOCI 1010 – Introduction to Sociology

SPCH 1010 – Fundamentals of Speech

SPAN 1010 – Elementary Spanish I

SPAN 1020 – Elementary Spanish II

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