



OFFICE OF RESEARCH AND EDUCATION ACCOUNTABILITY

**COURSE DELIVERY METHODS IN PUBLIC HIGHER EDUCATION:  
FALL 2020 AND SPRING 2021**



**AUGUST 2021**



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# Introduction

Numerous changes have occurred in higher education as a result of the COVID-19 pandemic. For one, undergraduate enrollment declined at most of the state's public higher education institutions for fall 2020 compared to the year prior. At the same time, higher education institutions made changes to course delivery methods (e.g., in-person classes, online classes, etc.) during this period, shifting many in-person courses to an entirely online format or a hybrid format (i.e., a blend of in-person and online components).

To track these changes, the Comptroller's Office of Research and Education Accountability (OREA) compiled data on postsecondary enrollment and course delivery methods for the fall 2020 and spring 2021 terms. OREA also compared the course delivery methods used just before the pandemic with those used for fall 2020 and spring 2021.<sup>1</sup>

## Definitions

- In-person courses: Courses offered through conventional face-to-face instruction.
- Online courses: Courses offered via a live stream or teleconference (real time) or via a recording that can be accessed at any time (not real time). An online course may have real time and not real time components.
- Hybrid courses: Courses with face-to-face and online components. Courses where faculty teach online and in-person at the same time are considered hybrid courses.
- Distance education: Education that uses one or more types of technology to deliver remote instruction and enable remote interaction between students and the instructor.<sup>2</sup>

## Enrollment during the pandemic

The largest percentage change in total enrollment for fall 2020 occurred at community colleges, where enrollment dropped by 10 percent compared to fall 2019. (Enrollment in community colleges was fairly steady from fall 2016 to fall 2019.) Enrollment of first-time, full-time students in community colleges was 17 percent lower compared to fall 2019, and the fall-to-spring retention rate for these students was 70 percent in the 2020-21 academic year compared to 77 percent for the prior year.

Enrollment declined by 7 percent in the fall 2020 term at Tennessee Colleges of Applied Technology (TCATs), but enrollment at TCATs had *increased* by almost 7 percent the year before (fall 2019).

Enrollment at locally governed institutions (LGIs) declined by over 2 percent in the fall 2020 term compared to the fall 2019 term. From fall 2016 to fall 2019, the fall-to-fall change in enrollment averaged about half a percent.

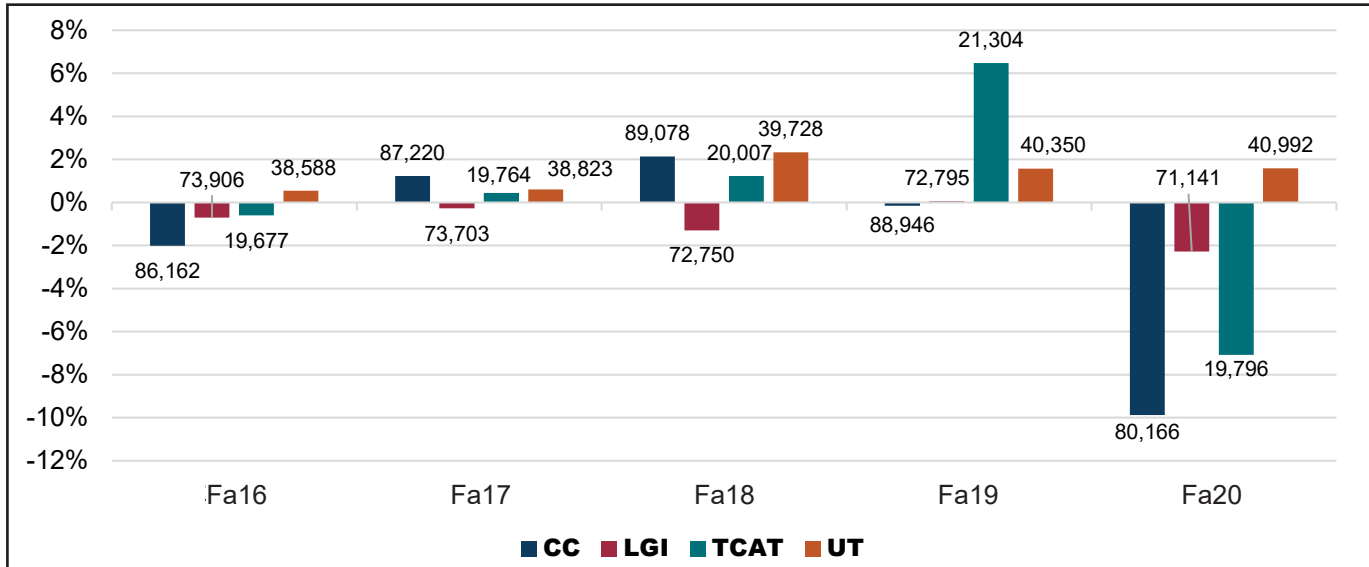
Enrollment in the University of Tennessee System (UT) increased by over 1.5 percent in fall 2020 compared to fall 2019. The system saw a similar percentage increase in enrollment for fall 2019 compared to fall 2018. (See Exhibit 1 below for a graph of fall enrollment by institution type.)

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<sup>1</sup> Course delivery methods in place as of August 28, 2020, (i.e., the start of the fall 2020 term for most institutions) were used for fall 2020. Course delivery methods in place as of February 12, 2021, which was about one month into the spring 2021 term, were used for spring 2021.

<sup>2</sup> Definition taken from the Integrated Postsecondary Education Data System (IPEDS).

**Exhibit 1: Average year-to-year percentage change in fall undergraduate enrollment by institution type**



Sources: OREA analysis of Tennessee Board of Regents (TBR) data for community colleges and TCATs; OREA analysis of IPEDS data for LGIs and UT, 2016-2019; OREA analysis of data retrieved from institution websites for LGIs and UT, 2020.

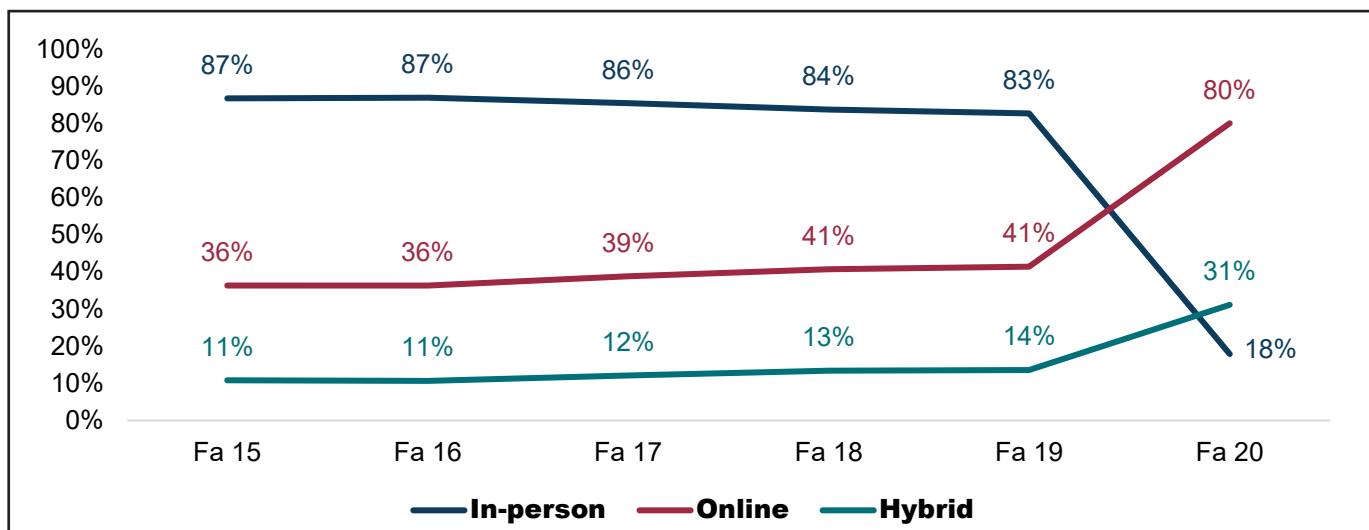
## Course Delivery Methods

### Community Colleges

In fall 2019, around 41 percent of students at community colleges enrolled in at least one online course. Following the beginning of the pandemic, this percentage almost doubled, with 80 percent of students enrolling in at least one online course in fall 2020.

The percentage of students enrolled in at least one hybrid course (i.e., a combination of in-person and online instruction) also increased over this period, rising from 14 percent in fall 2019 to 31 percent in fall 2020. The percentage of students enrolled in at least one course delivered in person (through conventional face-to-face instruction) declined from 83 percent in fall 2019 to 18 percent in fall 2020. (See Exhibit 2 for a comparison of fall enrollments at community colleges by course delivery method.)

**Exhibit 2: Percentage of fall community college students enrolled in at least one in-person, online, or hybrid course, 2015-2020**



Source: Analysis of TBR data by OREA.

The spring 2021 term (not shown in Exhibit 2) saw proportions similar to the fall 2020 term with respect to students enrolled in at least one in-person (16 percent), online (82 percent), or hybrid (28 percent) course.<sup>3</sup> (See Appendixes C and D for institution-level comparisons of fall 2020 and spring 2021 enrollments at community colleges by course delivery method.)

## Tennessee Colleges of Applied Technology (TCATs)

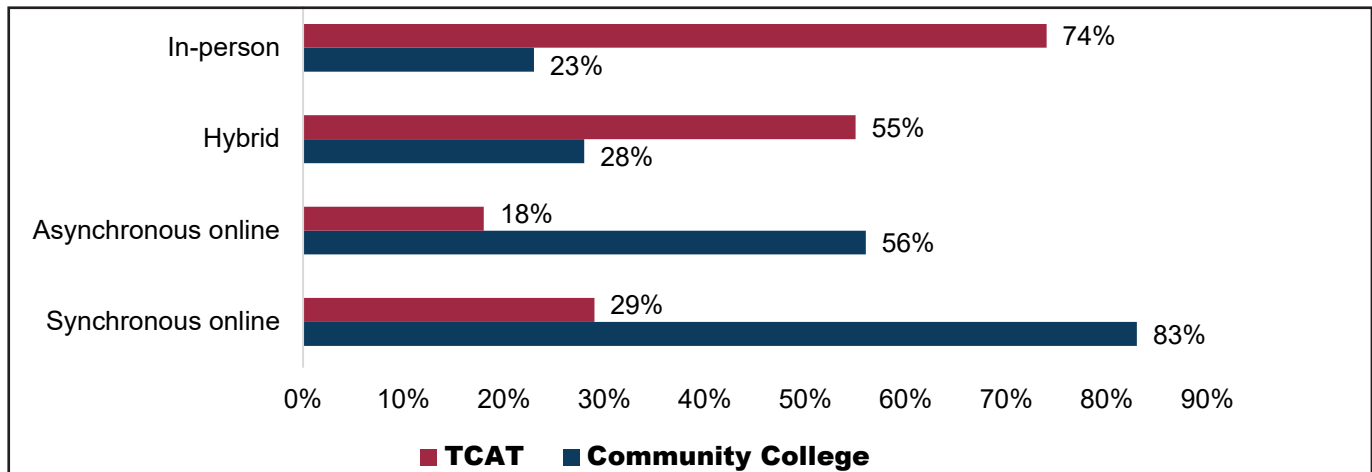
In response to health and safety concerns stemming from the pandemic, multiple TCATs implemented a hybrid course delivery method (i.e., a mix of in-person and online instruction).<sup>4</sup> Some TCATs moved class portions that did not require hands-on learning online, thereby converting those classes to a hybrid format. For courses that required in-person instruction, a staggered schedule was used, with the classes delivered in a socially distanced manner.<sup>5</sup> Further, several TCAT policies indicated quarantined students and faculty would be accommodated with a fully online course delivery method.

At the start of the fall 2020 trimester, 11 of the state’s 27 TCATs used a hybrid format for all courses. Eight TCATs offered courses in hybrid and in-person formats. The remaining eight TCATs offered entirely in-person instruction, with possible online accommodations for quarantined students and faculty.

At the six-week mark of the spring 2021 trimester, the number of TCATs using a hybrid format for all courses had decreased to three. Sixteen TCATs were offering courses in hybrid and in-person formats. Eight TCATs offered instruction solely in person, with possible online accommodations for quarantined students and faculty.

Seventy-four percent of faculty at TCATs who responded to a Tennessee Board of Regents survey<sup>6</sup> reported delivering instruction in person for the fall 2020 term. A hybrid of in-person and online methods was used by 55 percent of TCAT faculty who responded. As for respondents from community colleges, 83 percent reported delivering instruction through a live stream or teleconference (also known as synchronous online). Fifty-six percent of community college faculty respondents reported delivering instruction by way of a recording (also known as asynchronous online) in fall 2020.

### Exhibit 3: TCAT and community college faculty responses to “What methods of instruction did you use in fall 2020?”



Source: Reproduction of TBR chart used in its quarterly meeting in December 2020.

<sup>3</sup> Spring 2021 enrollment is based on census (14th day) enrollment data. Prior years use official end-of-term data. Historically, the end-of-term headcount is 1 percent higher than census.

<sup>4</sup> Prior to the pandemic, few TCAT students enrolled in distance education courses. Distance education refers to education that uses one or more types of technology to deliver remote instruction and enable remote interaction between students and the instructor. Distance education enrollment figures were used to provide historical reference for course delivery methods at TCATs. Enrollment in distance education courses and programs at TCATs was less than 1 percent prior to the pandemic: 0.25 percent of TCAT students enrolled in distance education courses in fall 2019.

<sup>5</sup> TCATs were granted a temporary waiver by their accrediting body – the Council on Occupational Education (COE) – and the U.S. Department of Education to use online instructional technologies during the pandemic, and many TCATs implemented hybrid instructional models in response to health and safety concerns stemming from the pandemic. As of early 2021, some TCATs were in the process of obtaining approval from the Tennessee Board of Regents and the COE to permanently add a hybrid delivery option for some programs.

<sup>6</sup> The survey of full-time and adjunct faculty was anonymous. Over 40 percent of full-time community college and TCAT faculty participated in the survey.

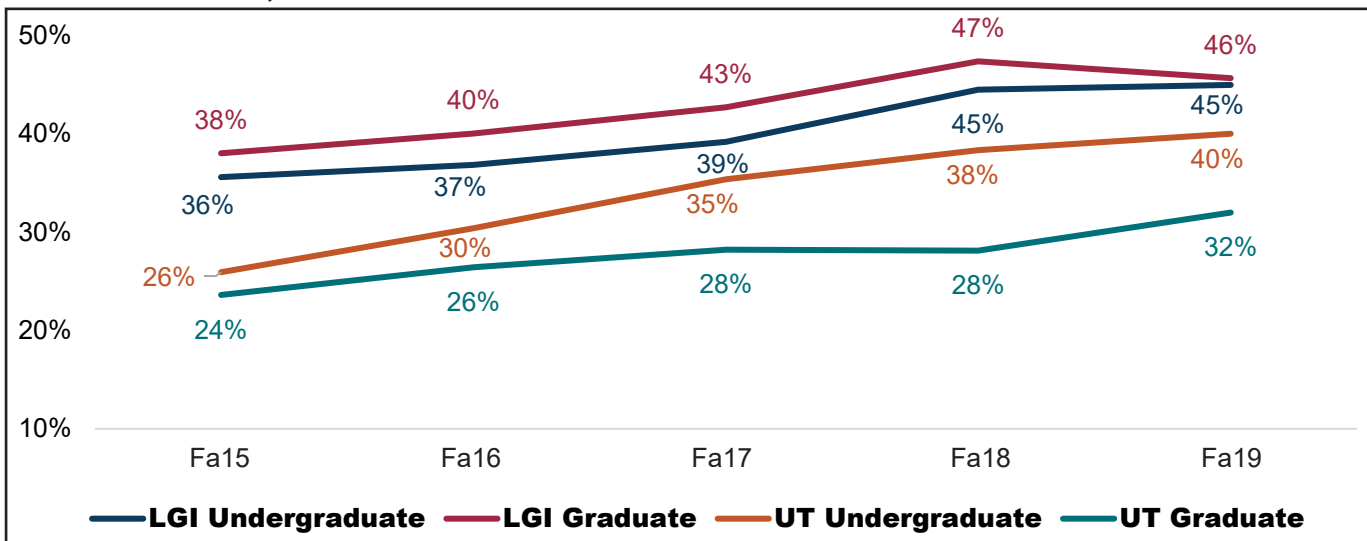
## Locally Governed Institutions (LGIs) and the University of Tennessee System

The LGIs and the UT System converted many in-person courses to an online or hybrid format in the 2020-21 academic year. In both the fall 2020 and spring 2021 terms, some LGIs offered over 80 percent of their courses remotely (i.e., online). Additionally, some institutions delayed holding in-person classes until after the fall 2020 semester was underway. For example, in-person classes were not held at the University of Memphis at the beginning of the fall 2020 term; the university implemented a phased-in return to in-person classes during the fall 2020 semester and allowed students to decide whether to attend such classes in person. (For an institution-level inventory of course delivery methods used for fall 2020 and spring 2021, see the course delivery methods snapshots in Appendixes A and B.)

OREA relied on publicly available data and data provided from TBR for this report. LGIs and UT do not fall under the purview of TBR, and granular information on the course delivery methods used in the 2020-21 academic year was not publicly available for LGIs and UT as of this report’s publication date.

Prior to the pandemic, enrollment in distance education was growing at the LGIs and in the UT System. Exhibit 4 shows the percentage of LGI and UT students enrolled in at least one distance education course from fall 2015 to fall 2019.<sup>7</sup> UT undergraduates had the highest growth, with an increase of 14 percentage points.

**Exhibit 4: Percentage of LGI and UT students enrolled in at least one distance education course for the fall, 2015-2019**



Source: OREA analysis using IPEDS data.

<sup>7</sup> The 2018 distance education figures in IPEDS for Tennessee State University (TSU) were incorrect. TSU provided OREA with updated distance education data for fall 2018.

## Appendix A

### Snapshots of Postsecondary Course Delivery Methods as of February 12, 2021

The course delivery methods used at public postsecondary institutions during the spring 2021 semester/trimester are displayed in the table below. See the notes below the table for definitions of the terms used to categorize course delivery methods.

Institution Name	Institution Type	In-person	Online	Hybrid
Austin Peay State University	LGI	Yes	Yes	Yes
Chattanooga State Community College	CC	Yes	Yes	Yes
Cleveland State Community College	CC	Yes	Yes	Yes
Columbia State Community College	CC	Yes	Yes	Yes
Dyersburg State Community College	CC	Yes	Yes	Yes
East Tennessee State University	LGI	Yes	Yes	Yes
Jackson State Community College	CC	Yes	Yes	Yes
Middle Tennessee State University	LGI	Yes	Yes	Yes
Motlow State Community College	CC	Yes	Yes	Yes
Nashville State Community College	CC	Yes	Yes	Yes
Northeast State Community College	CC	Yes	Yes	Yes
Pellissippi State Community College	CC	Yes	Yes	Yes
Roane State Community College	CC	Yes	Yes	Yes
Southwest Tennessee Community College	CC	Yes	Yes	Yes
TCAT Athens	TCAT	Yes	No	No
TCAT Chattanooga	TCAT	Yes	No	Yes
TCAT Covington	TCAT	Yes	No	Yes
TCAT Crossville	TCAT	New students in select programs	No	Yes
TCAT Crump	TCAT	Yes	For quarantined	Yes
TCAT Dickson	TCAT	Yes	For quarantined	Yes
TCAT Elizabethton	TCAT	Yes	For quarantined	Yes
TCAT Harriman	TCAT	No	For quarantined	Yes
TCAT Hartsville	TCAT	Yes	No	Yes
TCAT Hohenwald	TCAT	Yes	For quarantined	No
TCAT Jacksboro	TCAT	No	For quarantined	Yes
TCAT Jackson	TCAT	Yes	For quarantined	No
TCAT Knoxville	TCAT	Yes	For quarantined	Yes
TCAT Livingston	TCAT	Yes	No	No
TCAT McKenzie	TCAT	Yes	No	No
TCAT McMinnville	TCAT	Yes	No	Yes
TCAT Memphis	TCAT	No	No	Yes

TCAT Morristown	TCAT	Yes	No	No
TCAT Murfreesboro	TCAT	Yes	No	Yes
TCAT Nashville	TCAT	Yes	No	Yes
TCAT Newbern	TCAT	Yes	No	Yes
TCAT Oneida/Huntsville	TCAT	Yes	For quarantined	No
TCAT Paris	TCAT	Yes	No	Yes
TCAT Pulaski	TCAT	Yes	No	No
TCAT Ripley	TCAT	Yes	No	Yes
TCAT Shelbyville	TCAT	Yes	For quarantined	Yes
TCAT Whiteville	TCAT	Yes	For quarantined	Yes
Tennessee State University	LGI	Yes	Yes	Yes
Tennessee Tech University	LGI	Yes	Yes	Yes
University of Memphis	LGI	Yes	Yes	Yes
University of Tennessee at Chattanooga	UT	Yes	Yes	Yes
University of Tennessee at Knoxville	UT	Yes	Yes	Yes
University of Tennessee at Martin	UT	Yes	Yes	Yes
Volunteer State Community College <sup>a</sup>	CC	Yes	Yes	Yes
Walters State Community College <sup>b</sup>	CC	Yes	Yes	Yes

Notes:

- In-person courses use conventional face-to-face instruction. Courses that have an online lecture component and in-person lab or skill instruction are captured under the hybrid category.
  - Online courses may be provided via a live stream or teleconference at a specified time (real time) or via a recording that can be accessed at any time (not real time). An online course may have real time and not real time components.
  - Hybrid courses have both in-person and online components.
  - Institutions with online courses categorized as “for quarantined” stated in their campus updates or conveyed to OREA that they would accommodate students who need to isolate or quarantine with online options.
- a) Volunteer State Community College offers on-campus virtual instruction.
- b) Walters State Community College offers on-campus virtual instruction and the ability for students to interact with the instructor and students at another campus via closed circuit TV.

## Appendix B

### Snapshots of Postsecondary Course Delivery Methods as of August 28, 2020

The following table provides a snapshot of the course delivery methods used at public postsecondary institutions at the beginning of the fall 2020 semester. See the notes below the table for definitions of the terms used to categorize course delivery methods.

Institution Name	Institution Type	In-person	Online	Hybrid
Austin Peay State University	LGI	Yes	Yes	Yes
Chattanooga State Community College	CC	Yes	Yes	Yes
Cleveland State Community College	CC	Yes	Yes	Yes
Columbia State Community College	CC	Yes	Yes	Yes
Dyersburg State Community College	CC	After 1 <sup>st</sup> week	Yes	After 1st week
East Tennessee State University	LGI	Yes	Yes	Yes
Jackson State Community College	CC	Yes	Yes	Yes
Middle Tennessee State University	LGI	Yes	Yes	Yes
Motlow State Community College	CC	Yes	Yes	Yes
Nashville State Community College	CC	Yes	Yes	Yes
Northeast State Community College	CC	Yes	Yes	Yes
Pellissippi State Community College	CC	Yes	Yes	Yes
Roane State Community College	CC	Yes	Yes	Yes
Southwest Tennessee Community College	CC	Yes	Yes	Yes
TCAT Athens	TCAT	Yes	For quarantined	No
TCAT Chattanooga	TCAT	Yes	For quarantined	Yes
TCAT Covington	TCAT	No	No	Yes
TCAT Crossville	TCAT	Yes	For quarantined	No
TCAT Crump	TCAT	Yes	No	Yes
TCAT Dickson	TCAT	Yes	For quarantined	Yes
TCAT Elizabethton	TCAT	Yes	For quarantined	Yes
TCAT Harriman	TCAT	No	No	Yes
TCAT Hartsville	TCAT	No	No	Yes
TCAT Hohenwald	TCAT	Yes	For quarantined	No
TCAT Jacksboro	TCAT	No	For quarantined	Yes
TCAT Jackson	TCAT	No	No	Yes
TCAT Knoxville	TCAT	Yes	For quarantined	Yes
TCAT Livingston	TCAT	Yes	No	No
TCAT McKenzie	TCAT	No	No	Yes
TCAT McMinnville	TCAT	No	No	Yes
TCAT Memphis	TCAT	No	No	Yes
TCAT Morristown	TCAT	Yes	No	No



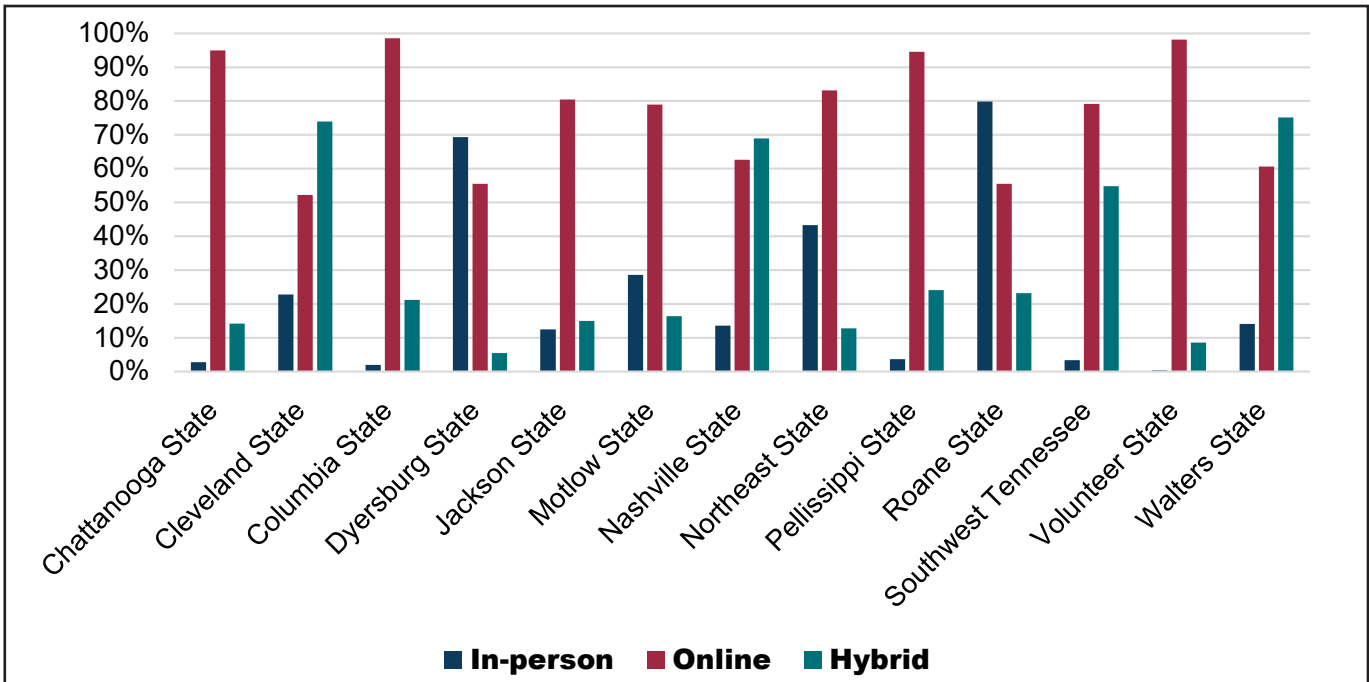
TCAT Murfreesboro	TCAT	Yes	No	Yes
TCAT Nashville	TCAT	Yes	No	Yes
TCAT Newbern	TCAT	No	No	Yes
TCAT Oneida/Huntsville	TCAT	Yes	For quarantined	No
TCAT Paris	TCAT	Yes	For quarantined	Yes
TCAT Pulaski	TCAT	Yes	No	No
TCAT Ripley	TCAT	No	No	Yes
TCAT Shelbyville	TCAT	Yes	For quarantined	No
TCAT Whiteville	TCAT	No	No	Yes
Tennessee State University	LGI	After 2nd week	Yes	Yes
Tennessee Tech University	LGI	Yes	Yes	Yes
University of Memphis	LGI	No	Yes	Yes
University of Tennessee at Chattanooga	UT	Yes	Yes	Yes
University of Tennessee at Knoxville	UT	Yes	Yes	Yes
University of Tennessee at Martin	UT	Yes	Yes	Yes
Volunteer State Community College	CC	Yes	Yes	Yes
Walters State Community College	CC	Yes	Yes	Yes

Notes:

- In-person courses use conventional face-to-face instruction. Courses that have an online lecture component and in-person lab or skill instruction are captured under the hybrid category.
- Online courses may be provided via a live stream or teleconference at a specified time (real time) or via a recording that can be accessed at any time (not real time). An online course may have real time and not real time components.
- Hybrid courses have both face-to-face and online components.
- Institutions with online courses categorized as “for quarantined” stated in their campus updates or conveyed to OREA that they would accommodate students who need to isolate or quarantine with online options.

## Appendix C

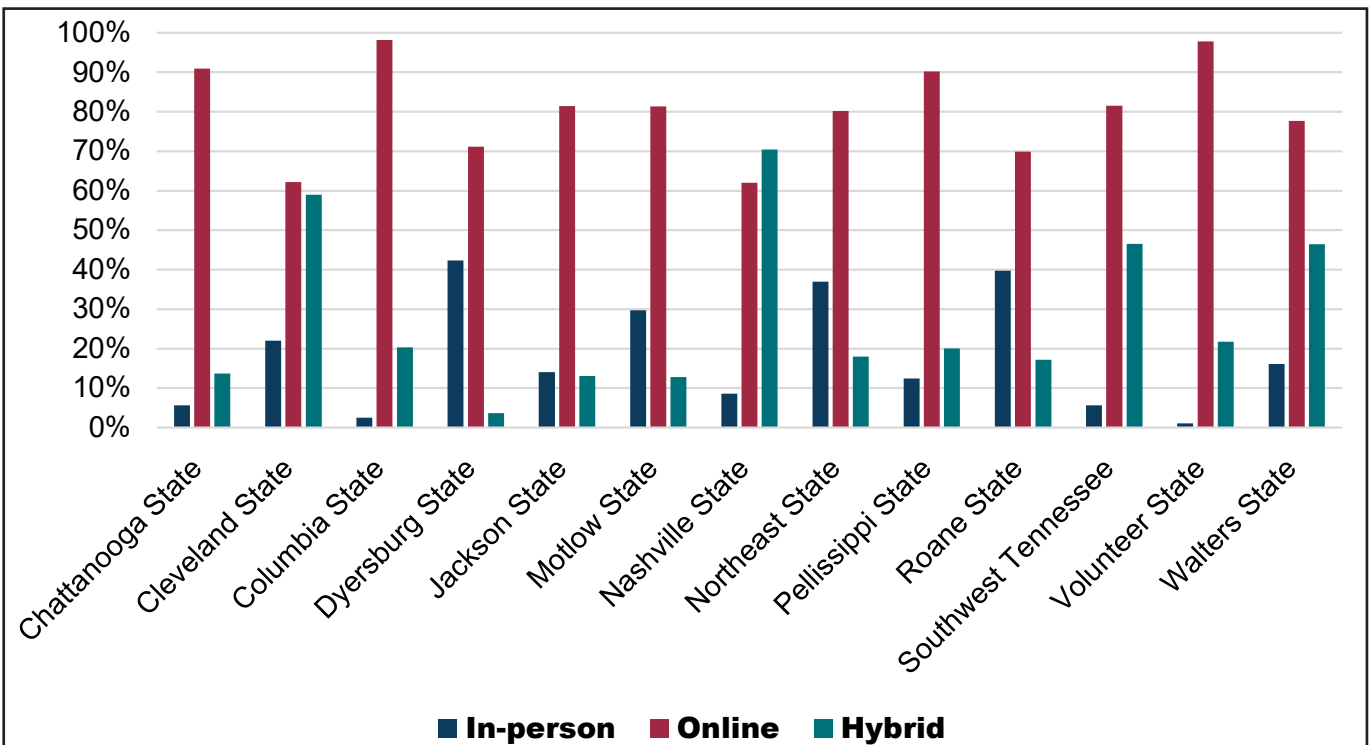
### Percentage of fall 2020 community college students enrolled in at least one in-person, online, or hybrid course by institution



Source: Analysis of TBR data by OREA.

## Appendix D

### Percentage of spring 2021 community college students enrolled in at least one in-person, online, or hybrid course by institution



Source: Analysis of TBR data by OREA.

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