



**ACCELERATE MS**

**2023: UNDERSTANDING  
THE BASELINE OF CAREER  
AND TECHNICAL EDUCATION  
IN MISSISSIPPI**

**HOUSE BILL 1388**  
(2021 LEGISLATIVE SESSION)

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## **EXAMINING CAREER TECHNICAL EDUCATION IN MISSISSIPPI'S K-12 SYSTEM**

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## **EXAMINING CAREER TECHNICAL EDUCATION AT MISSISSIPPI'S COMMUNITY COLLEGES**

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# K-12 CTE OVERVIEW

**AccelerateMS commissioned this analysis to fulfill the requirements set forth by House Bill 1388 (HB1388),** which seeks to align Mississippi Public K-12 career technical education (CTE) clusters with postsecondary credential programs, employer demand, and occupations that provide family-sustaining wages. Enacted on March 23, 2022, HB1388 required a baseline analysis be conducted assessing the postsecondary and workforce outcomes of students enrolled in CTE clusters as part of their high school education.

**This analysis has two primary objectives:**

**1**

*Provide information pertaining to secondary education outcomes of students enrolled in K-12 CTE in Academic Year (AY) 2016 through AY 2020*

**2**

*Provide information pertaining to postsecondary and employment outcomes of K-12 CTE graduates in AY 2016 through AY 2020.*

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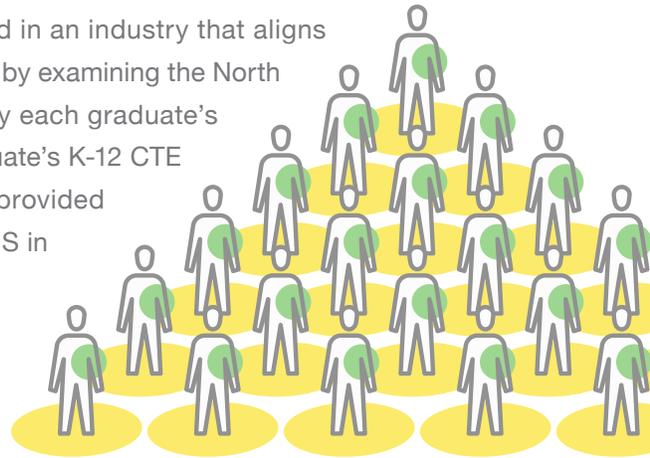
# DEFINITIONS

**CTE Participants** – The number of students enrolled in a Level 1 CTE course.

**CTE Concentrators** – The number of students enrolled in a Level 2 CTE course.

*\*For this analysis, the MDE provided a list of courses categorized as Level 1 and Level 2.*

**Workforce CTE Cluster Alignment** – The number employed in an industry that aligns with their K-12 CTE cluster. This alignment will be determined by examining the North American Industry Classification (NAICS) codes reported by each graduate's employer, then comparing these industry codes to the graduate's K-12 CTE cluster. A crosswalk of matching clusters and industries is provided in Appendix B. This crosswalk was provided by AccelerateMS in coordination with the Mississippi Department of Education and Mississippi State University's RCU.



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# DATA SOURCES

Data for this analysis were contributed to Mississippi's State Longitudinal Data System (SLDS) by the Mississippi Department of Education (MDE), the Mississippi Community College Board (MCCB), the Institutions of Higher Learning, and the Mississippi Department of Employment Security (MDES). These data record secondary education, postsecondary education, and employment outcomes of K-12 CTE participants from AY 2016 through AY 2020.

# K-12 CTE ANALYSIS



## **This analysis examines Mississippi K-12 students' outcomes and trends in Career and Technical Education (CTE) programs.**

The data collected covers a five-year period, including the academic disruptions caused by the COVID-19 pandemic. The analysis shows that the number of high school graduates who were CTE participants has increased by over 10% in the last five years, with over 13,000 students graduating in AY 2020.

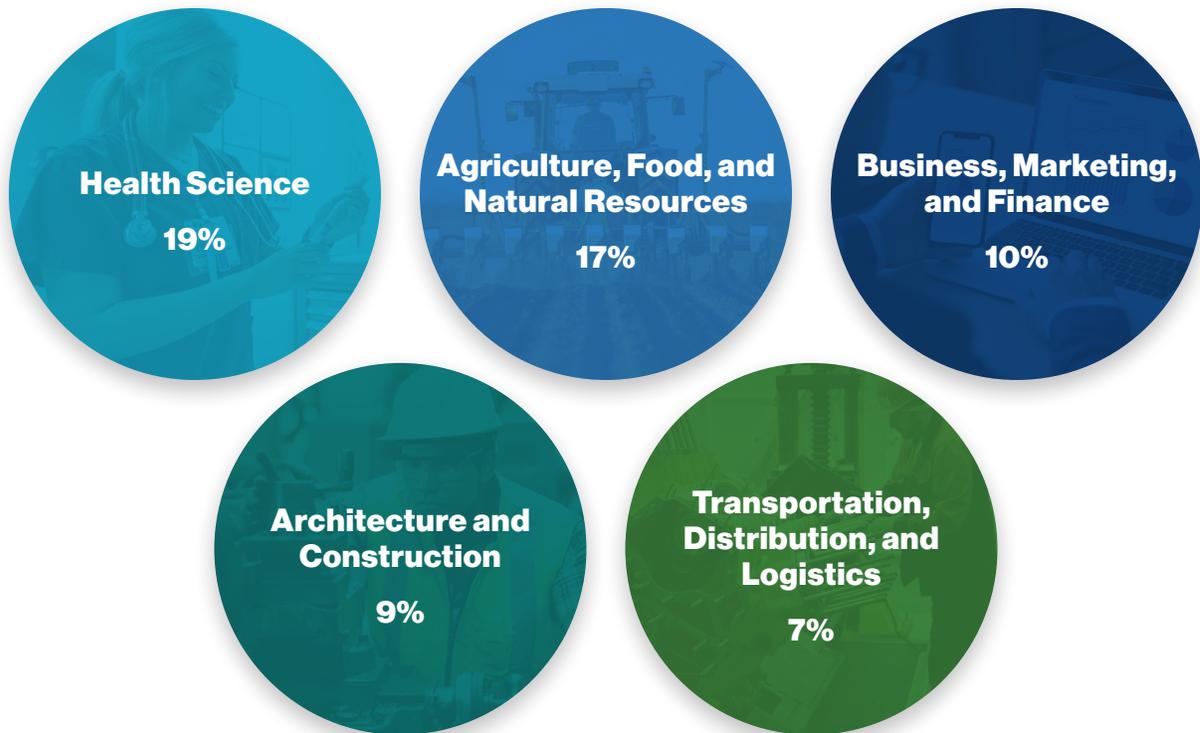
This increase has been accompanied by a drop of more than 40% (512 students in AY 2016 to 284 students in AY 2020) in K-12 CTE participants that drop out of high school. The current high school dropout rate of a CTE participant is 1% (284 students), and of a CTE concentrator is 0.6% (59 students). During this same time period, overall, the dropout rate among all K-12 students fell by nearly 20% and is currently close to 9%. This shows the impact CTE has on high school dropout reduction.

In the analysis, it is stated that K-12 CTE programs have seen a 4% increase in participants and an 8% increase in concentrators, with approximately 27,000 students enrolling each year.

	<i>AY 2016</i>	<i>AY 2020</i>	<i>Numeric Change</i>	<i>Percent Change</i>
<i>CTE Participants</i>	27,181	28,231	1,050	4%
<i>CTE Concentrators</i>	9,261	10,036	775	8%

# K-12 CTE ANALYSIS

The following K-12 CTE clusters had the highest numbers of CTE Participants:



Around 50% (6,388 students) of K-12 CTE graduates enroll in Mississippi community colleges, and over 10% (1,656 students) in Mississippi public universities. Of those who enroll in community college, 60% (4,091) are retained in their second academic year, and 10% (520 students) declare majors in aligned fields aligned with their K-12 CTE Cluster. Of those enrolling in public universities, nearly 75% (1,225 students) are retained in university in their second academic year, and about 25% (419 students) declare majors in aligned fields aligned with their K-12 CTE Cluster. However, there is room for improvement in identifying pathways in high school to increase the percentage of students declaring aligned postsecondary clusters.

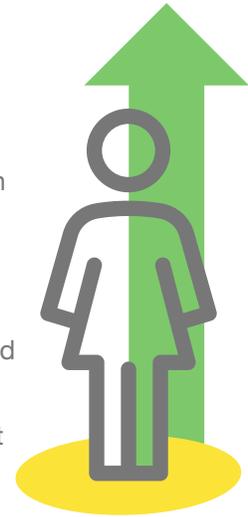
# K-12 CTE ANALYSIS

Of the remaining 4,900 K-12 CTE graduates who do not enroll in Mississippi community colleges or public universities, more than 60% (2,950 students) join the state's workforce. This includes any student that does not enroll in a post-secondary course within the first year of K-12 graduation. Around 25% (743 students) of them find employment in fields related to their K-12 CTE Cluster, with the two highest clusters being Transportation, Distribution, and Logistics (184 students) and Hospitality and Tourism (159 students). On average, these graduates who go straight into the workforce earn over \$12,000 in their first year of employment. This figure includes both part-time and full-time employment, which may slightly skew the average annual earnings (these students are not enrolled in any college courses). These low alignment numbers highlight the need for enhanced wage reports that provide better detail on the nature of the work of a person. For instance, IT expert working in some other sector currently reports as out of their field. Notably, K-12 CTE concentrators who skip post-secondary education make about \$500 more annually than K-12 participants who do the same. Nearly 20% (1301 students) of the students who do not enroll in post-secondary courses receive public assistance such as Supplemental Nutritional Aid Program (SNAP), Temporary Aid for Needy Families (TANF), or Unemployment Insurance in the first year after graduation.



# K-12 CTE ANALYSIS

The analysis highlights an upward trend in concentrators within the female enrollment, with a flat or slightly downward trend in males in those level two courses. This is worth noting, given national trends in labor force participation among young males. The analysis also shows upward trends in participation in CTE across subgroups such as gender, race, and economically disadvantaged students. There were similar trends in CTE concentrators as well. All students were classified as free and reduced lunch during COVID, which heavily impacted the data in those years, which explains the increase and then the sudden drop. The analysis notes that early exposure to career pathways is important and that there has been a growing enrollment trend in 9th and 10th grade students.



The analysis emphasizes the importance of identifying credentials of value approved by SWIB aligned to industry demand, with a strong upward trend in national certification attainment among CTE participants. The analysis also notes the state’s focus on work-based learning (WBL) as part of Perkins’s accountability, which will result in an increase in WBL participation in the next two years. There will be a slight decrease in credential attainment numbers going forward as WBL efforts are increased.

According to the analysis, while there has been an increase in participation and concentrator rates at the K-12 level, enrollment rates at MS community colleges and four-year colleges have not seen a significant change. Additionally, there has been a decrease in the number of students who continue their enrollment in MS community college beyond the first academic year, which could be due to the availability of multiple exit points such as 15 and 30-hour certificates. Regarding K-12 students who pursue career and technical education and then enroll in a MS community college with a major aligned with their CTE cluster, there has been a slight upward trend in their postsecondary enrollment. However, the number of such students is still relatively small.

Overall, the analysis highlights the positive impact of CTE on Mississippi’s high school students and the state’s workforce and identifies many opportunities and improvements that can occur by using resources such as career coaches.

*\*This analysis uses five years to present a comprehensive picture of students and student outcomes before, during, and, in some cases, after the academic interruptions caused by COVID-19. All data was heavily skewed from AY 2020 data because of the pandemic.*

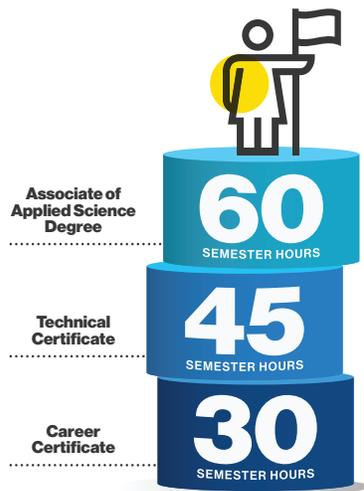


**TO VIEW THE ENTIRE ANALYSIS,  
PLEASE CLICK ON THE FOLLOWING LINK.**

# COMMUNITY COLLEGE CTE OVERVIEW

## House Bill 1388 charged AccelerateMS with aligning community college career technical education (CTE) programs to industry and occupations paying a family-sustaining wage.

One facet of HB1388 serves to conduct a baseline analysis of the workforce outcomes for students completing a CTE program through a Mississippi public community college, which is defined as the completion of either (1) an Associate of Applied Science degree, (2) the completion of a Career Certificate, or (3) the completion of a Technical Certificate. This baseline analysis will enable AccelerateMS and state policymakers to understand better what happens to these graduates after exiting their community college CTE program.



In Mississippi post-secondary education, CTE programs are designed to provide students with the knowledge and skills necessary to enter the workforce in a specific industry or occupation. One unique aspect of Mississippi's CTE post-secondary programs is the multiple exit points available to students. All CTE curriculum is designed in a stackable credential format with multiple exit points. The stackable credentials will be designed into a 30-semester hour career certificate, 45-semester hour technical certificate, and 60-semester hour Associate of Applied Science Degree (AAS).

## DEFINITIONS

**Career Certificate** – 30 hours minimum completed of coursework in a CTE degree, if applicable.

**Technical Certificate** – 45 hours minimum completed of coursework in a CTE degree, if applicable.

**Associate of Applied Science (AAS)** – 60 hours minimum completed of coursework in a CTE degree which would include the Technical Certificate Coursework plus 15 hours of academic coursework.

**Average Annualized Earnings** – The average (median) annualized earnings of graduates who are employed within one year of graduation. Quarterly earnings are multiplied by 4 to create an annualized earnings measurement, and the median value is reported. Results will be presented in total and by industry of employment. These will represent part time and full time employment.

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# COMMUNITY COLLEGE CTE OVERVIEW

**The results of this analysis align with these two core objectives:**

## **OBJECTIVE 1** *Measure Postsecondary Outcomes of Community College CTE Students*

The first objective of this analysis provides information on the number of community college CTE students in the state, the subject areas studied, and the number of students who subsequently enroll in a Mississippi 4-year public university.

## **OBJECTIVE 2** *Measure Employment Outcomes of Community College CTE Students*

The second objective of this analysis provides information on the employment outcomes of community college CTE students who graduated with an Associate of Applied Science degree, a Career Certificate, or a Technical Certificate. For community college CTE graduates entering the workforce after completing a CTE program, this analysis determines the extent to which students' subject area of study, as defined in this analysis, is aligned with the industry of employment after graduation. For unemployed graduates, this baseline analysis checks alternative outcomes, such as whether the graduate received public assistance or unemployment benefits.

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## DATA SOURCES

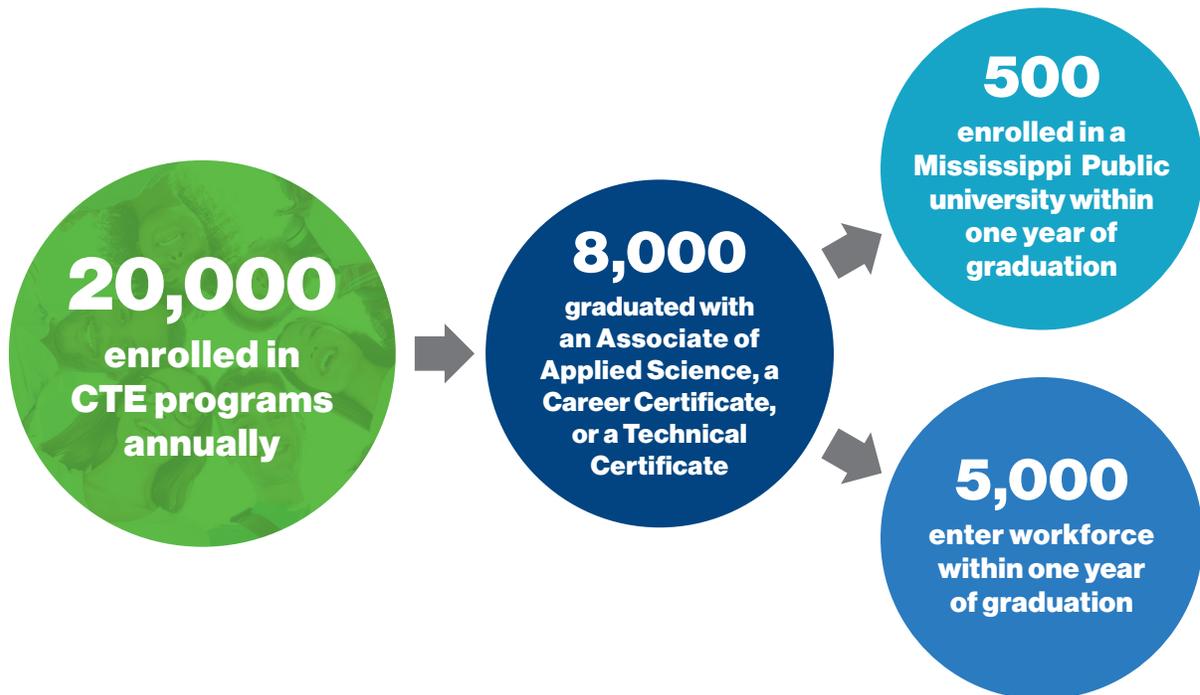
Data for this analysis were contributed to Mississippi's State Longitudinal Data System (SLDS) by the Mississippi Community College Board (MCCB), the Institutions of Higher Learning (IHL), and the Mississippi Department of Employment Security (MDES). These data record postsecondary and employment outcomes of community college CTE participants from Academic Year (AY) 2017 through AY 2021.

# COMMUNITY COLLEGE CTE ANALYSIS

## **This analysis examines Mississippi community college students' outcomes and trends in Career and Technical Education (CTE) programs.**

The data collected covers a five-year period, including the academic disruptions caused by the COVID-19 pandemic.

Over the five-year period, an average of 20,000 students were enrolled in CTE programs annually, with 8,000 students graduating with either an Associate of Applied Science (60 hours), a Career Certificate (30 hours), or a Technical Certificate (45 hours). Of these graduates, approximately 6% (500 students) enrolled in a Mississippi Public university within one year of graduation, with 60% (300 students) of those students declaring majors aligned with their community college CTE cluster.



For those not continuing their education, approximately 66% (5,000 students) secured employment within one year of graduation, with 40% (2,000 students) working in industries aligned with their community college CTE cluster. However, it is important to note existing wage record data does not account for individuals who work in their area of training but in an industry outside of their “sector.” For instance, an individual who completes an IT program and works in healthcare or banking would be employed in an industry that does NOT align. Enhanced wage data is a critical opportunity for the state to strategically improve program alignment and reporting of outcomes.

# COMMUNITY COLLEGE CTE ANALYSIS

CTE enrollment decreased by 5% (948 students) between AY 2017 and 2021, with total community college enrollment decreasing by 7% (6,920 students) during the same period. Nevertheless, enrollment in Associate of Applied Science CTE programs increased by 3% (459 students) despite declining enrollment. CTE certificate enrollment decreased by 22% (1,407 students), a statistic that needs further analysis in future.

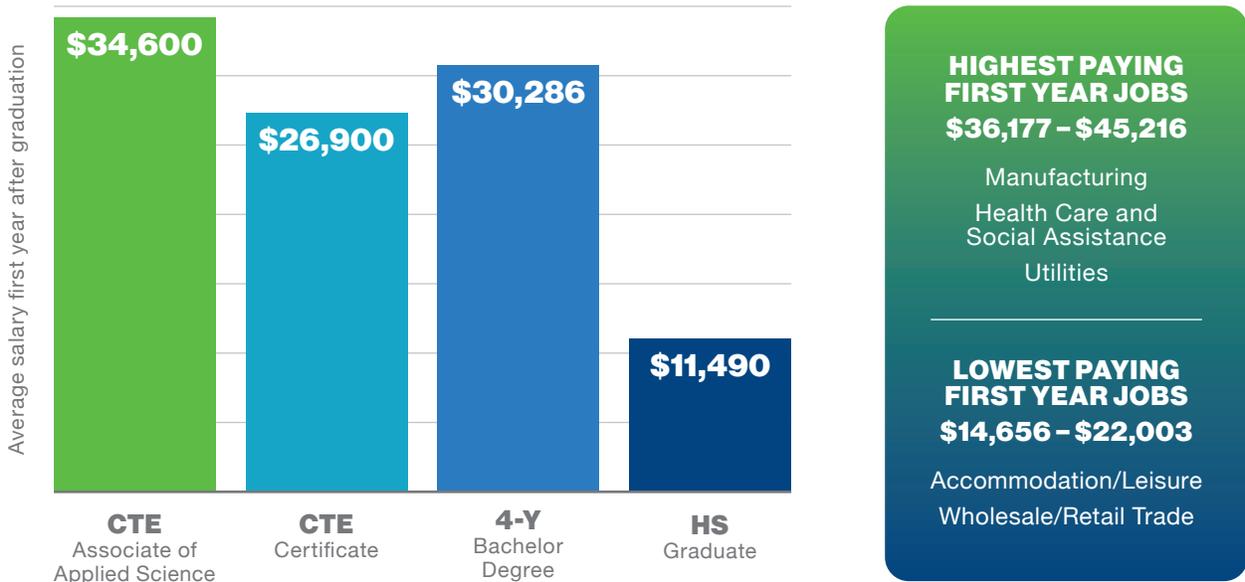
	<i>AY 2017</i>	<i>AY 2021</i>	<i>Numeric Change</i>	<i>Percent Change</i>
<b><i>Total Community College Enrollment</i></b>	<b>96,267</b>	<b>89,347</b>	<b>-6,920</b>	<b>-7%</b>
<b><i>Total CTE Student Enrollment</i></b>	<b>20,800</b>	<b>19,852</b>	<b>-948</b>	<b>-5%</b>
<i>AAS CTE Degree</i>	14,533	14,992	459	+3%
<i>CTE Certificate</i>	6,267	4,860	-1,407	-22%

# COMMUNITY COLLEGE CTE ANALYSIS

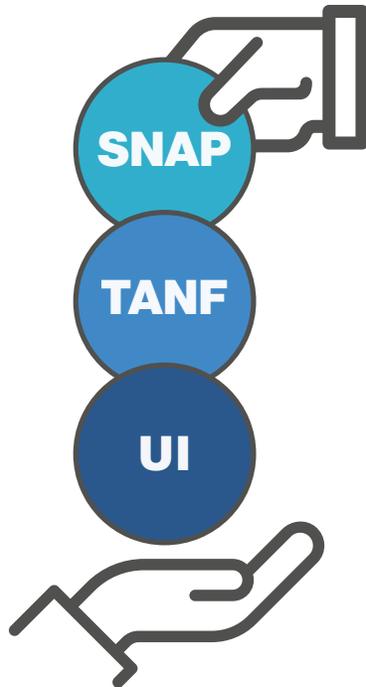
On average, community college CTE graduates earn approximately \$31,000 in their first year of employment after graduation. A significant gap in earnings was observed between black (\$26,039) and white (\$33,501) CTE program graduates. When comparing types of completion possibilities at a community college, AAS enrollment skewed more toward white than black; certificate enrollment skewed more toward black than white. It is also noteworthy that graduates with an Associate of Applied Science degree (\$34,600) earned more than those with a Certificate (\$26,900) in their first year after graduation. Additional analysis must be completed to determine how wage gaps are related to program offerings, program selection, career sector opportunities, and other possible factors.

The analysis also sheds light on the first-year salaries of graduates in various industries. Jobs in Manufacturing, Health Care and Social Assistance, and Utilities were the highest paying, with salaries ranging from \$36,177 to \$45,216. On the other hand, Accommodation/Leisure and Wholesale/Retail Trade had the lowest salaries, with salaries ranging from \$14,656 to \$22,003.

In comparison to community college CTE students, graduates with a bachelor's degree from Mississippi's four-year colleges earned an average of \$30,286 in their first year after graduation, while those with only a high school diploma earned an average of \$11,490.



# COMMUNITY COLLEGE CTE ANALYSIS



On average, approximately 1,000 (10%) of community college CTE graduates received public assistance through Supplemental Nutritional Aid Program (SNAP), Temporary Aid for Needy Families (TANF), or Unemployment Insurance (UI) programs in the year after graduation. However, it is important to note that the data presented here only reflects the first year after graduation and does not provide a complete picture of individuals' long-term financial outcomes. While the COVID-19 pandemic significantly impacted data in AY 2020, the number of graduates receiving public assistance has rebounded to pre-pandemic levels. Specifically, UI's data was heavily skewed in AY 2020 by COVID-19's economic impact. The numbers are slightly lower in AY 2021 (i.e., 806) than before the pandemic AY 2018 (i.e., 831). Also, need to evaluate other public assistance programs such as Medicaid, Mississippi Department of Rehabilitation Services (MDRS), and Social Security Administration (SSA) to see their impact on students.

In summary, this analysis provides valuable insights into the outcomes and trends of Mississippi community college students enrolled in CTE programs. The data highlights the importance of program alignment and reporting outcomes and the need to focus on getting more people into training programs and careers with better wages.

*\*This analysis uses five years to present a comprehensive picture of students and student outcomes before, during, and, in some cases, after the academic interruptions caused by COVID-19. All data was heavily skewed from AY 2020 data because of the pandemic.*



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