

**THE TEXAS SCIENCE TECHNOLOGY ENGINEERING AND MATHEMATICS
2021-2022 CAMPUS DESIGNATION OUTCOMES-BASED MEASURES CALCULATION PROCESS**

Texas Science, Technology, Engineering and Mathematics (T-STEM) Academies are open-enrollment secondary programs that focus on improving instruction and academic performance in science and mathematics-related subjects and increasing the number of students who study and enter STEM careers.

The Texas Education Agency (TEA) designed the designation process for T-STEMs under the authority of Texas Education Code (TEC) §39.407 and 39.416 (2019) and Texas Administrative Code (TAC) §102.1093 (effective 2011).

TEA is currently in the third year of a five year phase-in process for the [T-STEM Blueprint](#). All data are for information and planning purposes only. After the phase-in period, designation status will be determined using outcomes-based measures (OBM). For more information on the T-STEM Blueprint revision and phase-in process, please visit TEA's [T-STEM homepage](#).

Designations are differentiated into 2 categories:

Provisional

T-STEMs in the first 5 years of operation (i.e., first 4 years of serving students) must demonstrate implementation of all design elements for each benchmark of the Blueprint and meet the Provisional T-STEM outcomes-based measures in the Access, Attainment, and Achievement domains.

Designated

T-STEMs in their 6th+ year of operation (i.e., serving students 5 or more years) must maintain designation by demonstrating implementation of all design elements for each benchmark of the Blueprint and meet the Designated T-STEM outcomes-based measures in the Access, Attainment, and Achievement domains.

For the 2021-2022 designation year, Access OBM data indicators are provided to Provisional and Designated T-STEM campuses for formative purposes. ***This information has not been used to determine designation status. Currently, the program designation status is based on the number of years of program operation.***

Access	<i>Do specific student groups have access to the program?</i>	Access OBM are based on the proportions of students at each campus within specific student groups (e.g., at-risk or economically disadvantaged) compared to district rates.
Attainment	<i>Do students attain college credit, complete rigorous courses, obtain relevant work-related experiences, and earn postsecondary degrees or credentials?</i>	Attainment OBM are based on the proportions of students at each campus who persist, complete college Math/Science, accumulate college-level credits, participate in work-based learning, earn an industry-based certification, earn associate degrees or Level I or Level II certificates, and graduate high school in four years.
Achievement	<i>Do students in the program achieve successful assessment outcomes?</i>	Achievement OBM are based on the proportions of students at each campus who successfully meet “college ready” standards on achievement assessments (e.g., TSI Assessments, State of Texas Assessments of Academic Readiness end-of-course exams, and SAT/ACT exams) compared to pre-determined criteria.

T-STEM OBM are currently on a phase-in schedule (see Table 1 below). Access data for students participating in the T-STEM program in 2020-2021 will be provided in the *Outcomes-Based Measures (OBM) Summary Report for 2021-2022 Designation* based on the phase-in schedule and designation status of the campus. Access OBM will add a grade level each year during the phase-in period. For example, starting in the initial year of implementation, in 2018-2019, Access for students in Grade 9 was evaluated for each specific student group for 2019-2020 designation. During the current designation year, Access OBM for students in Grades 9, 10, and 11 for student groups are typically provided. Access OBM data indicators will continue to be monitored in following years by including each additional grade as the cohort of T-STEM students advances to Grade 12. Access data for special student populations are provided for informational purposes and includes students across all grade levels currently served by the T-STEM program (as determined by the years of serving students for a particular program).

Table 1
Designation Phase-in Schedule

Designation Year	School Year Data	Phase in
2019-2020	2018-2019	Grade 9
2020-2021	2019-2020	Grades 9, 10
2021-2022	2020-2021	Grades 9, 10, 11
2022-2023	2021-2022 ^a	Grades 9, 10, 11, 12

^a2022-first phase-in graduates.

New T-STEM campuses opening *after* 2018-2019 will follow a similar phase-in schedule based upon their initial year serving students. ***OBM will phase in for opening Provisional T-STEM as the entering cohort of 9th graders advance through graduation.*** This means that OBM data indicators will add a grade level each year during the phase-in period. For example, if a campus has only been in operation for three years (i.e., only served students for two years), Access data for students in Grade 9 and 10 will be provided. ***Upon the completion of the Provisional period, a T-STEM must meet the state's Designation OBM criteria in the Access, Attainment, and Achievement domains.***

The Access, Attainment, and Achievement OBM will be operationalized differently for each of the designation categories (i.e., Provisional versus Designated).

Access Outcomes-Based Measures

Access OBM are measured by the proportion of students within specific student groups enrolled at T-STEM campuses based on Public Education Information Management System (PEIMS) fall enrollment data for 2020-2021.

Data collection sources and timeframe are detailed in Table 2 below. See Table A-1 in Appendix A for additional detail about the PEIMS data elements and codes submitted to TEA through the Texas Student Data System (TSDS) that are used in calculating Access OBM.

Table 2
Access OBM Data Sources

Data of Interest	School Year	Data Collection Timeframe ^a	Source
Student demographic indicators: <ul style="list-style-type: none"> • At-Risk • Economically Disadvantaged^c • English Learner^c • Students with Disabilities^{c,d} • African American^c • Hispanic^c • Female^c Other indicators: <ul style="list-style-type: none"> • T-STEM Indicator • Grade 	2020-2021	Fall 2020/Collection 1	PEIMS ^b

^aSee the [Texas Education Data Standards](#) for more information about the Texas Student Data System data submission timelines and a description of the data submitted in each collection for the 2020-2021 school year. ^bPublic Education Information Management System. ^cFor informational purposes only with the exception of the Economically Disadvantaged OBM which is evaluated for Designated campuses but not for Provisional campuses. ^dThis indicator includes students who are served in special education programs as well as students receiving services under Section 504 of the Rehabilitation Act of 1973.

Access measurement process:

- Step 1** Calculate Access for student groups in the T-STEM campus
- Step 2** Calculate Access for student groups in districts for comparison to the T-STEM campus rates
- Step 3** Calculate the difference between T-STEM campus and comparison district rates¹
- Step 4** Compare calculated rate differences against pre-determined criteria (OBM requirements) for Provisional and Designated T-STEM designations

Step 1: Calculate T-STEM campus Access rates

The T-STEM campus Access rates are defined as the proportions of students belonging to specific student groups in grade levels determined by the phase-in schedule and years of serving students during the phase-in. The following student groups are included in the campus Access calculations: at-risk (Provisional and Designated T-STEM) and economically disadvantaged (Designated T-STEM only) students. These campus Access rates will be compared to district rates (see Step 4).

¹ Charter school T-STEM campuses are compared to the district within which the charter school campus is geographically located. see [School District Locator | Texas Education Agency](#) for more information.

In addition, Access rates are also calculated for historically underrepresented students in STEM fields (e.g., African American, Hispanic, female students, English learners and students with disabilities) and made available on the campus-level report but are not compared to a district rate and will not be used to determine designation status. **Reminder: OBM are currently being phased in. Calculations for all student groups are for informational purposes ONLY and are not used to determine a T-STEM's designation status.**

Access OBM calculations for 2021-2022 designation for Provisional and Designated T-STEM serving students for at least three years include students in Grades 9 through 11, with the exception of at-risk rates which are calculated for Grade 9 only for both designations.

A Provisional T-STEM serving students for two or fewer years will be provided Access calculations which only include the grade levels served by the T-STEM program in 2020-2021. Access OBM will continue to be monitored in following years by including each additional grade as the cohort of T-STEM students advances to Grade 12.

Campus rates are calculated as follows:

$$\text{T-STEM At-Risk Grade 9} = \frac{\text{Students who have the T-STEM Indicator, are At-Risk, and in Grade 9}}{\text{All Grade 9 students who have the T-STEM Indicator in fall of 2020-2021}}$$

$$\text{T-STEM Economically Disadvantaged Grades 9-11} = \frac{\text{Students who have the T-STEM Indicator, are Economically Disadvantaged, and in Grades 9 through 11}}{\text{All Grade 9 through 11 students who have the T-STEM Indicator in fall of 2020-2021}}$$

$$\text{T-STEM English Learners Grades 9-11} = \frac{\text{Students who have the T-STEM Indicator, are English Learners, and in Grade 9 through 11}}{\text{All Grade 9 through 11 students who have the T-STEM Indicator in fall of 2020-2021}}$$

$$\text{T-STEM Students with Disabilities Grades 9-11} = \frac{\text{Students who have the T-STEM Indicator, are Students with Disabilities or are 504, and in Grades 9 through 11}}{\text{All Grade 9 through 11 students who have the T-STEM Indicator in fall of 2020-2021}}$$

$$\text{T-STEM African American students Grades 9-11} = \frac{\text{Students who have the T-STEM Indicator, are African American, and in Grades 9 through 11}}{\text{All Grade 9 through 11 students who have the T-STEM Indicator in fall of 2020-2021}}$$

$$\text{T-STEM Hispanic students Grades 9-11} = \frac{\text{Students who have the T-STEM Indicator, are Hispanic, and in Grades 9 through 11}}{\text{All Grade 9 through 11 students who have the T-STEM Indicator in fall of 2020-2021}}$$

$$\begin{array}{l} \text{T-STEM} \\ \text{Female} \\ \text{students} \\ \text{Grades 9-11} \end{array} = \frac{\text{Students who have the T-STEM Indicator,} \\ \text{are Female, and in Grades 9 through 11}}{\text{All Grade 9 through 11 students who have the T-STEM Indicator in fall of 2020-2021}}$$

Step 2: Calculate comparison district Access rates

The comparison district Access rate indicator is defined as the proportions of students in the pre-determined comparison district belonging to the specific student group. Charter school T-STEM campuses are compared to the traditional district within which the charter school campus is geographically located. The comparison district rate for the At-Risk OBM data indicator is calculated for Grades 9 through 12. The comparison district rate for Economically Disadvantaged students is calculated for Grades K-12. District Access rates for historically underrepresented students (e.g., African American, Hispanic, female, English learners, and students with disabilities) are not calculated.

District rates are calculated as follows:

$$\begin{array}{l} \text{District At-Risk Grades} \\ \text{9 - 12} \end{array} = \frac{\text{Students who are At-Risk and are in Grades 9 through 12}}{\text{All Grade 9 through 12 students in fall of 2020-2021}}$$

$$\begin{array}{l} \text{District Economically} \\ \text{Disadvantaged Grades} \\ \text{K-12}^2 \end{array} = \frac{\text{Students who are Economically Disadvantaged and in Grades K through 12}}{\text{All Grade K through 12 students in fall of 2020-2021}}$$

Step 3: Difference between district rate and T-STEM rate

Once the rates are calculated for a campus and its comparison district, the difference between the district and campus rates (District Rate – Campus Rate) is calculated. That is, the difference between rates is calculated by subtracting the proportion of students in each respective category at the campus level from the proportion of students in each respective category at the district level.

For example,

$$\text{At-Risk Difference} = \text{District At-Risk Rate} - \text{T-STEM At-Risk Rate}$$

This calculation is conducted for at-risk (Provisional and Designated ECHS) and economically disadvantaged students (Designated ECHS only), as listed in Steps 1 and 2.

² For Designated designations only.

Step 4: Compare rate differences to designation standards

Access rate differences, indicating the extent of the difference in access between student groups in the T-STEM campus and its comparison district, are compared to threshold criteria for Provisional and Designated T-STEM designation categories.

Based on the threshold comparison, a flag of (Yes/No) is created that indicates whether the campus has met Provisional or Designated status for each measure. The criteria for meeting each designation category are in Tables 3 and 4 below:

**Table 3
Provisional Access Criteria**

(District – T-STEM) Difference Score	Description	Met Criteria? (%)	
		No if:	Yes if:
At-Risk	Meets Provisional standard for At-risk	> 20.0	≤ 20.0

**Table 4
Designated Access Criteria**

(District – T-STEM) Difference Score	Description	Met Criteria? (%)	
		No if:	Yes if:
At-Risk	Meets Designated standard for At-risk	> 15.0	≤ 15.0
Economically Disadvantaged	Meets Designated standard for Economically Disadvantaged	> 5.0	≤ 5.0

Attainment Outcomes-Based Measures

The T-STEM must provide opportunities for students to complete high school graduation requirements, earn college credits, participate in experiential learning opportunities, and earn a postsecondary credential by expanding dual credit options for students.

Attainment rates are measured by the proportions of students attending T-STEM campuses who persist through the program, accumulate college credit hours, enroll in STEM-focused work-based learning practicum course work, earn a STEM-focused industry-based certification, and earn a postsecondary degree and/or credential by graduation.

In addition, the four-year longitudinal graduation rate for each campus is compared to the statewide four-year longitudinal graduation rate. Specifically, the campus-level graduation rate with exclusions applied for state accountability is the graduation rate used in this measure. For T-STEM that operate a school-within-a-school model, the graduation rate is the rate for the campus overall, not just for the T-STEM students.

All Attainment OBM data indicators continue to be in the process of phase in. Therefore, no Attainment OBM data indicators have been calculated for 2021-2022 designation. Attainment OBM are calculated based on the grade levels served in the phase-in and will add a grade level each year during the phase-in period.

In next year's designation cycle, Attainment will include a Persistence OBM which will measure the degree to which T-STEM students persist in the program (i.e., Grade 9 students remaining in the T-STEM program into Grade 12). More information related to the calculation of the Persistence OBM data indicator can be found in Appendix B.

In the following year, additional OBM data indicators relating to college credits, work-based learning, and industry-based certifications will phase in. More information related to college-level courses eligible for fulfilling the college-level mathematics or science course can be found in Appendix C. Table C-1 lists eligible dual credit courses, Table C-2 lists eligible OnRamps Courses, and Table C-3 lists eligible Advanced Placement exams. More information related to STEM practicum courses eligible for work-based learning can be found in Appendix D. The list of TEA-approved industry-based certifications can be found in Appendix E.

Achievement Outcomes-Based Measures

T-STEM must ensure that the students are college ready or are dual credit eligible. One method to determine college readiness is to administer a Texas Success Initiative (TSI) college placement exam (as defined by 19 TAC §4.53, 2019, amended to be effective 2018).

Achievement rates are measured by the proportions of T-STEM students who pass student achievement assessments, such as the Algebra I EOC State of Texas Assessments of Academic Readiness (STAAR) end-of-course (EOC) exam in Grade 9 and the Texas Success Initiative Assessment (Reading, Writing, and Mathematics), and meeting college, career and military readiness (CCMR) standards as defined in state accountability on the SAT or ACT in reading and mathematics.

T-STEM Achievement OBM are currently on a phase-in schedule and will add a grade level each year during the phase-in period. Achievement OBM are calculated based on the grade levels served in the phase-in. During the initial year of implementation, no T-STEM Achievement OBM were calculated because campuses had not fully served Grade 9 students in the phase-in. Last year, STAAR Algebra I EOC OBM were calculated. TEA will continue to calculate this OBM at the aggregate level to monitor the impact of the pandemic on OBM. See Table A-2 in Appendix A for additional detail about the PEIMS data elements and codes submitted to TEA through TSDS that are used in calculating Achievement OBM.

Due to testing disruptions resulting from the COVID-19 pandemic, the STAAR Algebra I EOC OBM data indicator has not been calculated. All other OBM data indicators (i.e., TSIA and SAT/ACT) continue to be in the process of phase in. Therefore, no Achievement OBM data indicators have been calculated for 2021-2022 designation.

Additional actions have been taken by TEA in response to COVID-19. TEA has modified the calculations for all OBM data indicators relating to the TSIA. Students may meet the TSIA Reading OBM data indicator in one of two ways: 1) meet state standard on the TSIA1 Reading assessment, 2) successful completion of first college-level Reading course. TEA anticipates the phase-out of the TSIA Writing OBM data indicator with the launch of TSIA2.0 in January 2021. Students may meet the TSIA Math OBM data indicator in one of two ways: 1) meet state standard on the TSIA 1 Math assessment, 2) successful completion of first college-level Math course (i.e., algebraically intensive math course). Data for successful completion of first college-level math courses are self-reported by Texas public institutions of higher education. TEA receives this data from the Texas Higher Education Coordinating Board. Due to lagging data, when TSIA OBM are phased in, calculations will be based on 11th graders in the 2020-2021 academic year for designation in 2022-2023.

Appendix A

Table A-1
Student Demographic and Other Indicators in Access Outcomes-Based Measure Calculations for the 2021-2022 Designation Year

Student Demographic Indicators

Data Element	TSDS ^a Source and Criteria
At-Risk	<p>Data Source. PEIMS^b fall collection (Collection 1) on the 40100-Student Basic Information subcategory.</p> <p>Criteria. Student coded as “1” for the At-Risk Indicator Code (E0919).</p>
Economically Disadvantaged	<p>Data Source. PEIMS fall collection (Collection 1) on the 40100-Student Basic Information subcategory.</p> <p>Criteria. Student coded as “01,” “02,” or “99” for the Economic Disadvantage Code (E0785).</p>
English Learner	<p>Data Source. PEIMS fall collection (Collection 1) on the 40100-Student Basic Information subcategory.</p> <p>Criteria. Student coded as “1,” for the LEP^c Indicator Code (E0790).</p>
Students with Disabilities	<p>Data Source. PEIMS fall collection (Collection 1) on the 40110-Enrollment subcategory.</p> <p>Criteria. Student coded as “1” on Special Ed Indicator Code (E0794) or “1” on Section 504 Indicator Code (E1603).</p>
African American	<p>Data Source. PEIMS fall collection (Collection 1) on the 40100-Student Basic Information subcategory.</p> <p>Criteria. Student coded as “1” for Black African American Code (E1061) and “0” for American Indian-Alaska Native Code (E0159), Asian Code (E1060), Native Hawaiian Pacific Islander Code (E1062), White Code (E1063) and Hispanic Latino Code (E1064).</p>
Hispanic	<p>Data Source. PEIMS fall collection (Collection 1) on the 40100-Student Basic Information subcategory.</p> <p>Criteria. Student coded as “1” for Hispanic Latino Code (E1064).</p>
Female	<p>Data Source. PEIMS fall collection (Collection 1) on the 40100-Student Basic Information subcategory.</p> <p>Criteria. Student coded as “F” for Sex Code (E0004).</p>

Other Indicators

Data Element	TSDS ^a Source and Criteria
T-STEM ^d Indicator	<p>Data Source. PEIMS fall collection (Collection 1) on the 40100-Student Basic Information subcategory.</p> <p>Criteria. Student coded as “01” for the T-STEM Indicator Code (E1559).</p>
Grade	<p>Data Source. PEIMS fall collection (Collection 1) on the 40110-Enrollment subcategory.</p> <p>Criteria. Student coded as “09”, “10”, “11”, or “12” for the Grade Level Code (E0017). See Access OBM^e rate calculations for how the Grade Level Code criteria are used across the calculations.</p>

^aTexas Student Data System. ^bPEIMS Public Education Information System. ^cLimited English Proficiency. ^dTexas Science Technology Engineering and Mathematics. ^eOutcomes-based measures.

Table A-2
Data Indicators in Achievement Outcomes-Based Measure Calculations for the 2021-2022 Designation Year

Data Element	TSDS ^a Source and Criteria
Algebra I EOC ^b	<p>Data Source. STAAR^c Algebra I EOC records from spring, summer, and winter re-test administration periods, for the 2019-2020^d school year for students enrolled in Grade 9 at the time of the test. Grade 10 retest records are included for summer and winter administrations.</p> <p>Criteria. Results from scored (i.e., score code = "S") exams only. If a student has records linked to multiple scored exams (i.e., re-tests), their highest score is retained for the current analysis.</p>
Other indicators	
Data Element	TSDS ^a Source and Criteria
Attendance	<p>Data Source. PEIMS^e summer collection (Collection 3) on the 42400-Basic Attendance subcategory or on the 42500-Flexible Attendance subcategory within the 42401-Special Programs Reporting Period Attendance subcategory.</p> <p>Criteria. Student coded as "9," "10," or "11" for the Grade Level Code (E0017) and "1," "2," "3," "4," "5," or "6" for the Reporting Period Indicator Code.</p>
T-STEM ^f Indicator	<p>Data Source. PEIMS summer collection (Collection 3) on the 40100-Student Basic subcategory.</p> <p>Criteria. Student coded as "01" for the T-STEM Indicator Code (E1559).</p>
Grade	<p>Data Source. PEIMS summer collection (Collection 3) 42400-Basic Attendance subcategory or on the 42500-Flexible Attendance subcategory within the 42401-Special Programs Reporting Period Attendance subcategory.</p> <p>Criteria. Student coded as "09," "10," "11," or "12" for the Grade Level Code (E0017). See Achievement OBM^g rate calculations for how the Grade Level Code criteria are used across the calculations.</p>

^aTexas Student Data System. ^bEnd-of-course. ^cState of Texas Assessments of Academic Readiness. ^dDue to COVID-19, STAAR administrations for the 2019-2020 school year were cancelled and the STAAR Algebra I EOC OBM data indicator was not calculated, the data presented here is for informational purposes only. ^ePEIMS Public Education Information System. ^fTexas Science Technology Engineering and Mathematics. ^gOutcomes-based measures.

Appendix B - Persistence

The Persistence OBM data indicator measures the degree to which T-STEM students persist in the program (i.e., Grade 9 students remaining in the T-STEM program through Grade 12). In the upcoming designation cycle for 2022-2023, each T-STEM which has been in operation for 5 or more years (i.e., served students for four 4 or more years) will receive persistence OBM data indicators. The statewide aggregate persistence for Designated T-STEM has been calculated to provide benchmarking data for students in grade 12 in the 2020-2021 academic year. The persistence measurement process is described below.

The Persistence measure is based on PEIMS attendance and leaver data. T-STEM will be held accountable for students who dropped out of school, remained at the T-STEM campus but returned to the comprehensive school setting (i.e., no longer a T-STEM student at the campus), were removed from the T-STEM program, moved to another school within the district and did not re-enroll in a T-STEM program, or received a Texas Certificate of High School Equivalency (TxCHSE) before the fall of 2020. Additionally, campuses will be held accountable for students for whom a leaver record is required to be submitted in PEIMS but is not received. T-STEM will not be held accountable for students who move to a different district, or who leave the district for reasons other than dropping out of school, such as moving to another educational setting, being withdrawn by the district, dying, or returning to the family's home country. Nor will campuses be held accountable for students that could not be tracked in PEIMS due to ID errors. See Table B-1 for additional detail about PEIMS data elements and codes submitted to TEA through TSDS that are used in calculating the Persistence OBM.

**Table B-1
Persistence OBM Data Sources**

Data of Interest	School Year	Data Collection Timeframe	Source
Leaver Data	2017-2018	Fall 2018/Collection 1	PEIMS ^a
	2018-2019	Fall 2019/Collection 1	PEIMS ^a
	2019-2020	Fall 2020/Collection 1	PEIMS ^a
Other Indicators:			
• Attendance ^b	2017-2018	Summer 2018/Collection 3	PEIMS ^a
	2018-2019	Summer 2019/Collection 3	PEIMS ^a
	2019-2020	Summer 2020/Collection 3	PEIMS ^a
• T-STEM Indicator	2017-2018	Summer 2018/Collection 3	PEIMS ^a
	2018-2019	Summer 2019/Collection 3	PEIMS ^a
	2019-2020	Summer 2020/Collection 3	PEIMS ^a
	2020-2021	Fall 2020/Collection 1	PEIMS ^a
• Grade	2017-2018	Summer 2018/Collection 3	PEIMS ^a
	2018-2019	Summer 2019/Collection 3	PEIMS ^a
	2019-2020	Summer 2020/Collection 3	PEIMS ^a
• TEA Processed Data ^c	2017-2018	N/A	PEIMS ^a
	2018-2019	N/A	PEIMS ^a
	2019-2020	N/A	PEIMS ^a

^aSee the [Texas Education Data Standards](#) for more information about the Texas Student Data System data submission timelines and a description of the data submitted in each collection during the 2017-2018 through the 2021-2022 school years. ^bAttendance data are used to create cohorts of students enrolled at a T-STEM campus in order to track student attainment. ^cEach school year, attendance and enrollment data are processed by TEA to create a roster of Grade 7-12 students. The following fall, submitted leaver records, Texas Certificate of High School Equivalency (TxCHSE) records, and enrollment records are attached to the roster to determine the status of students who returned and did not return to school. The roster identifies students who returned, students who were leavers (e.g., graduates, dropouts, other leavers), TxCHSE recipients, students who were movers, students for whom a leaver record was required to be submitted in PEIMS but was not received, and students that could not be tracked in PEIMS due to ID errors. For information about this processing, see the "Creating the Roster of Students" section in the [Secondary School Completion and Dropouts in Texas Public Schools](#) report. These data were used to determine the status of students who did not enroll in Fall of 2020-2021 and were not accounted for through PEIMS Leaver data for the purposes of calculating the Persistence OBM.

Persistence measurement process:

Step 1 Calculate Persistence rates

Step 2 Compare rates against pre-determined designation standard for Designated T-STEMs

Step 1: Calculate T-STEM campus Persistence rates

Persistence will be calculated as the percentage of students who are enrolled in the Fall 2019-2020 at the T-STEM campus or who graduated early from the T-STEM campus out of the T-STEM students who were enrolled in previous years, including students who were enrolled since Grade 9 or started in the T-STEM program in Grades 10 or 11.

Campus rates are calculated as follows:

$$\text{T-STEM Persistence} = \frac{\text{Students who are enrolled with a T-STEM Indicator in the fall of 2020-2021 or graduated early from the T-STEM campus}}{\text{Students who have the T-STEM Indicator, in Grade 9 in 2017-2018, or new Grade 10 T-STEM students in 2018-2019, or new Grade 11 T-STEM students in 2019-2020 and not excluded for approved reasons}}$$

Step 2: Compare rates to designation standards

Once the rates are calculated, they are compared to pre-established thresholds for Designated standards. A flag of (Yes/No) is calculated based on whether the campus rate meets the pre-established standard for each measure according to the criteria in the tables below.

The criteria for each designation category are in Tables B-2 - B-3 below. The shaded OBM data indicators indicate the phase-in process currently underway.

Table B-2

Provisional Attainment Criteria

T-STEM Rate	Description	Met Criteria? (%)	
		No if:	Yes if:
Persistence	Meets Provisional standard for Persistence into Grade 12	< 70.0	≥ 70.0

Table B-3

Designated Attainment Criteria

T-STEM Rate	Description	Met Criteria? (%)	
		No if:	Yes if:
Persistence	Meets Designation standard for Persistence into Grade 12	< 75.0	≥ 75.0

See Table B-4 for additional detail about PEIMS data elements and codes submitted to TEA through TSDS that are used in calculating the Persistence OBM.

**Table B-4
Data Indicators in Persistence Outcomes-Based Measure Calculations for the 2021-2022 Designation Year**

Data Element	TSDS ^a Source and Criteria
Leaver	<p>Data Source. PEIMS^b fall collection (Collection 1) on the 40203-School Leaver subcategory.</p> <p>Criteria. Student coded as “01,” on the Leaver Reason Code (E1001) is counted as a graduate. Student coded as “03,” “16,” “24,” “60,” “66,” “78,” “81,” “82,” “83,” “85,” “86,” “87,” or “90” on the Leaver Reason Code (E1001) is counted as a student leaving for reasons other than dropping out. Student coded as “08,” “20,” “88,” “89,” or “98” on the Leaver Reason Code (E1001) is counted as a dropout.</p>
Other indicators	
Data Element	TSDS ^a Source and Criteria
Attendance	<p>Data Source. PEIMS summer collection (Collection 3) on the 42400-Basic Attendance subcategory or the 42500-Flexible Attendance subcategory within the 42401-Special Programs Reporting Period Attendance subcategory.</p> <p>Criteria. Student coded as “1,” “2,” “3,” “4,” “5,” or “6” for the Reporting Period Indicator Code.</p>
T-STEM ^c Indicator	<p>Data Source. PEIMS summer collection (Collection 3) on 40100-Student Basic subcategory and PEIMS fall collection (Collection 1) on the 40100-Student Basic Information subcategory.</p> <p>Criteria. Student coded as “01” for the T-STEM Indicator Code (E1559).</p>
Grade	<p>Data Source. PEIMS summer collection (Collection 3) 42400-Basic Attendance subcategory or the 42500-Flexible Attendance subcategory within the 42401-Special Programs Reporting Period Attendance subcategory.</p> <p>Criteria. Student coded as “09,” “10,” or “11” for the Grade Level Code (E0017). See Persistence OBM^d rate calculations for how the Grade Level Code criteria are used across the calculations.</p>
TEA ^e Processed Data	<p>Data Source. Data processed by TEA to create the roster of students for the submission of leaver records and the calculation of underreported rates.</p> <p>Criteria. Each school year, attendance and enrollment data submitted by districts are processed by TEA to create a roster of Grade 7-12 students. The following fall, district-submitted leaver records and enrollment records, as well as TxCHSE^f records submitted to TEA by High School equivalency assessment centers, are attached to the roster to determine the status of students who returned and did not return to school. The roster identifies students who returned, students who were leavers (e.g., graduates, dropouts, other leavers), TxCHSE recipients, students who were movers, students for whom a leaver record was required to be submitted in PEIMS but was not received, and students that could not be tracked in PEIMS due to ID errors. For information about this processing, see the “Creating the Roster of Students” section in the Secondary School Completion and Dropouts in Texas Public Schools report.</p>

^aTexas Student Data System. ^bPEIMS Public Education Information Management System. ^cTexas Science Technology Engineering and Mathematics.

^dOutcomes-based measures. ^eTexas Education Agency. ^fTexas Certificate of High School Equivalency.

Appendix C – College-Level STEM Courses

Table C-1
Eligible Course Codes for Dual Credit, by Subject Area, 2016-2017 Through 2019-2020

Subject Area	Course Title	Course Code	2016-2017	2017-2018	2018-2019	2019-2020
Mathematics	ALGEBRA I (ALG 1)	03100500	X	X	X	X
Mathematics	ALGEBRA I	03100507	X	X	X	X
Mathematics	ALGEBRA II (ALG2)	03100600	X	X	X	X
Mathematics)	GEOMETRY (GEOM)	03100700	X	X	X	X
Mathematics	PRECALCULUS (PRE CALC)	03101100	X	X	X	X
Mathematics	MATH MODELS WITH APPLICATIONS	03102400	X	X	X	X
Mathematics	INDEP STUDY IN MATH (1ST TIME)	03102500	X	X	X	X
Mathematics	INDEP STUDY IN MATH (2ND TIME)	03102501	X	X	X	X
Mathematics	INDEPEND STUDY MATH	03102502	X	X	X	X
Mathematics	ADVANCED QUANT REASONING	03102510	X	X	X	X
Mathematics	DISCRETE MATH FOR PRBLM SOLVNG	03102520	X	X	X	X
Mathematics	STATISTICS	03102530	X	X	X	X
Mathematics	ALGEBRAIC REASONING	03102540	X	X	X	X
Mathematics	INTEGRATED MATHEMATICS I*ECTOR	11101000	X	X	X	X
Mathematics	INTEG. MATHEMATICS II *ECTOR	11102000	X	X	X	X
Mathematics	INTEG. MATHEMATICS III *ECTOR	11103000	X	X	X	X
Mathematics	INTEG. MATHEMATICS IV *ECTOR	11104000	X	X	X	X
Mathematics	APPLIED MATH FOR TECH PROFNALS	12701410		X	X	X
Mathematics	LCC-MATHEMATICS - DEPT GRD6	82100XXX	X	X	X	X
Mathematics	LOCAL CREDIT CRSE, MATH GRADE7	82920XXX	X	X	X	X
Mathematics	LOCAL CREDIT CRSE, MATH GRADE8	83100XXX	X	X	X	X
Mathematics	LCC-MATHEMATICS- GRD 9-12	84100XXX	X	X	X	X
Mathematics	AP CALCULUS AB	A3100101	X	X	X	X
Mathematics	AP CALCULUS BC	A3100102	X	X	X	X
Mathematics	AP STATISTICS (APSTATS)	A3100200	X	X	X	X
Mathematics	COLGE PREP COURSE MATHEMATICS	CP111200	X	X	X	X
Mathematics	IB MATHEMATICAL STUDIES STAN.	I3100100	X	X	X	X
Mathematics	IB MATHEMATICS STANDARD LEVEL	I3100200	X	X	X	X
Mathematics	IB MATHEMATICS HIGHER LEVEL	I3100300	X	X	X	X
Mathematics	IB FURTHER MTHEMATICS HIGH LVL	I3100400	X	X	X	X
Mathematics	IB MATH ANALYS & APRCH STD LVL	I3100500				X
Mathematics	IB MATH ANALYS & APRCH HGH LVL	I3100600				X
Mathematics	IB MATH APS & INTERPT STD LVL	I3100700				X
Mathematics	IB MATH APPS & INTERPT HGH LVL	I3100800				X
Mathematics	MATH-INST OF HIGHER EDU ENDRSD	IHE11100	X	X	X	X
Mathematics	LOCALLY DVELOPED MATHEMATICS A	LD11110A	X	X	X	X
Mathematics	LOCALLY DVELOPED MATHEMATICS B	LD11110B	X	X	X	X
Mathematics	LOCALLY DVELOPED MATHEMATICS C	LD11110C	X	X	X	X
Mathematics	LOCALLY DVELOPED MATHEMATICS D	LD11110D	X	X	X	X
Mathematics	MULTIVARIABLE CALCULUS	N1110018	X	X	X	X

Subject Area	Course Title	Course Code	2016-2017	2017-2018	2018-2019	2019-2020
Mathematics	MODERN GEOMETRY	N1110019	X	X	X	X
Mathematics	LINEAR ALGEBRA	N1110021	X	X	X	X
Mathematics	CONTEMPORARY MATH TOPICS	N1110024	X	X		
Mathematics	NUMBER THEORY	N1110025	X	X	X	X
Mathematics	LINEAR PROGRAMMING	N1110026	X	X		
Mathematics	STRATEGIC LEARN F/HS MATH	N1110030	X	X	X	X
Mathematics	MODERN PHYSICS	N1120041	X	X	X	X
Science	BIOLOGY (BIO)	03010200	X	X	X	X
Science	BIOLOGY	03010207	X	X	X	X
Science	ENVIRONMENTAL SYSTEMS-ENVIRSYS	03020000	X	X	X	X
Science	AQUATIC SCIENCE (AQUA SCI)	03030000	X	X	X	X
Science	CHEMISTRY (CHEM)	03040000	X	X	X	X
Science	PHYSICS (PHYSICS)	03050000	X	X	X	X
Science	ASTRONOMY (ASTRMY)	03060100	X	X	X	X
Science	EARTH AND SPACE SCIENCE (ESS)	03060200	X	X	X	X
Science	INTEGRATED PHYSICS/CHEMISTRY	03060201	X	X	X	X
Science	SCIEN RESEARCH & DESIGN III	13037220	X	X	X	X
Science	LCC-SCIENCE-GRD 9-12	84800XXX	X	X	X	X
Science	AP BIOLOGY	A3010200	X	X	X	X
Science	AP ENVIRONMENTAL SCIENCE	A3020000	X	X	X	X
Science	AP CHEMISTRY	A3040000	X	X	X	X
Science	AP PHYSICS C	A3050002	X			
Science	AP PHYSICS 1: ALGEBRA BASED	A3050003	X	X	X	X
Science	AP PHYSICS 2: ALGEBRA BASED	A3050004	X	X	X	X
Science	AP PHYSICS C: ELECTR&MAGNETISM	A3050005	X	X	X	X
Science	AP PHYSICS C: MECHANICS	A3050006	X	X	X	X
Science	IB BIOLOGY STANDARD LEVEL	I3010201	X	X	X	X
Science	IB BIOLOGY HIGHER LEVEL	I3010202	X	X	X	X
Science	IB ENVIRN SYS & SOC STND LVL	I3020000	X	X	X	X
Science	IB DESIGN TECHNOLOGY STD LEVEL	I3030001	X	X	X	X
Science	IB DESIGN TECHNOLOGY HIGHR LVL	I3030002	X	X	X	X
Science	IB CHEMISTRY STANDARD LEVEL	I3040002	X	X	X	X
Science	IB CHEMISTRY HIGHER LEVEL	I3040003	X	X	X	X
Science	IB PHYSICS STANDARD LEVEL	I3050002	X	X	X	X
Science	IB PHYSICS HIGHER LEVEL	I3050003	X	X	X	X
Science	IB SPRTS EXERS&HLTH SCI ST LVL	I3060001			X	X
Science	IB SPRTS EXERS&HLTH SCI HGH LV	I3060002			X	X
Science	LOCALLY DEVELOPED SCIENCE A	LD11220A	X	X	X	X
Science	LOCALLY DEVELOPED SCIENCE B	LD11220B	X	X	X	X
Science	LOCALLY DEVELOPED SCIENCE C	LD11220C	X	X	X	X
Science	LOCALLY DEVELOPED SCIENCE D	LD11220D	X	X	X	X
Science	ORGANIC CHEMISTRY (ORGNCHEM)	N1120027	X	X	X	X
Science	SCIENCE AND TECH (SCINTEC)	N1120039	X	X	X	X

Subject Area	Course Title	Course Code	2016- 2017	2017- 2018	2018- 2019	2019- 2020
Science	PLANET EARTH	N1120040	X	X	X	X
Science	INTRO TO RENEWABLE ENERGY	N1120042	X	X	X	X
Science	ELECTRICITY AND MAGNETISM	N1120043	X	X	X	X

Table C-2
Eligible Course Codes for OnRamps Course Completion, by Subject Area, 2016-2017 Through 2019-2020

Subject Area	Course Title	Course Code	2016- 2017	2017- 2018	2018- 2019	2019-2020
Chemistry	Principles of Chemistry (Lecture)	CH 301			X	X
Chemistry Lab	Introduction to Chemical Practices (Lab)	CH 104M			X	X
College Algebra	College Algebra	M 301			X	X
Geoscience	Earth, Wind, and Fire: An Introduction to Geoscience	GEO 302E	X	X	X	X
Geoscience	Physical Geography	GEOG 1401			X	
Physics	Electromagnetism, Optics, and Nuclear Physics	PHY 302L		X	X	X
Physics	Mechanics, Heat, and Sound	PHY 302K	X	X	X	X
Physics	Lab for Mechanics, Heat, and Sound	PHY 102M				X
Physics	Mechanics, Heat, and Sound	PHYS 1403		X		
Physics	General Physics I	PHYS 1403			X	
Physics	General Physics II	PHYS 1404			X	
Precalculus	Discovery Precalculus: A Creative and Connected Approach	M 305G	X	X	X	X
Precalculus	Discovery Precalculus	MATH 1550	X	X	X	
Precalculus	Precalculus	MATH 1550				X
Statistics	OnRamps Statistics	SDS 302	X	X	X	X
Statistics	OnRamps Statistics	MATH 2300	X	X	X	

Table C-3
Eligible Advanced Placement Course Examinations, 2016-2017 Through 2019-2020

AP exam name	2017	2018	2019	2020
Biology	X	X	X	X
Calculus AB	X	X	X	X
Calculus BC	X	X	X	X
Chemistry	X	X	X	X
Computer Science A	X	X	X	X
Computer Science Principles	X	X	X	X
Environmental Science	X	X	X	X
Physics 1	X	X	X	X
Physics 2	X	X	X	X
Physics C: Electricity and Magnetism	X	X	X	X
Physics C: Mechanics	X	X	X	X
Statistics	X	X	X	X

Appendix D – Work-Based Learning

Table D-1
Eligible STEM Practicum

Career Cluster	Course Title	Service ID Code	2016-2017	2017-2018	2018-2019	2019-2020
STEM	Practicum in STEM (1 st time)	13037400	X	X	X	X
STEM	Practicum in STEM (2 nd time)	13037410		X	X	X
STEM	Practicum in STEM 2 (1 st time)	13037410	X	X	X	X
STEM	Extended Practicum in STEM (1 st time)	13037405		X	X	X
STEM	Extended Practicum in STEM (2 nd time)	13037415		X	X	X
STEM	Career Prep 1 (1 st time)	12701300	X	X	X	X
STEM	Career Prep 1 (2 nd time)	12701305		X	X	X
STEM	Career Prep II/Extended Practicum (1 st time)	12701400	X	X	X	X
STEM	Career Prep II/Extended Practicum (2 nd time)	12701405		X	X	X
Architecture and Construction	Practicum in Architecture Design (1 st Time)	13004800	X	X	X	X
Architecture and Construction	Practicum in Architecture Design (2 nd Time)	13004810		X	X	X
Architecture and Construction	Practicum in Architecture Design 2	13004810	X	X	X	X
Architecture and Construction	Extended Practicum in Architecture Design (1 st time)	13004805		X	X	X
Architecture and Construction	Extended Practicum in Architecture Design (2 nd time)	13004815		X	X	X
Health Science	Practicum in Health Science (1 st time)	13020500	X	X	X	X
Health Science	Practicum in Health Science (2 nd time)	13020510		X	X	X
Health Science	Practicum in Health Science 2	13020510	X	X	X	X
Health Science	Extended Practicum in Health Science (1 st time)	13020505		X	X	X
Health Science	Extended Practicum in Health Science (2 nd time)	13020515		X	X	X
Information Technology	Computer Technician Practicum (1 st time)	13027500		X	X	X
Information Technology	Computer Technician Practicum (2 nd time)	13027510		X	X	X
Information Technology	Extended Computer Technician Practicum (1 st time)	13027505		X	X	X
Information Technology	Extended Computer Technician Practicum (2 nd time)	13027515		X	X	X
Information Technology	Practicum in Information Technology (1 st time)	13028000		X	X	X
Information Technology	Practicum in Information Technology (2 nd time)	13028010		X	X	X
Information Technology	Extended Practicum in Information Technology (1 st time)	13028005		X	X	X
Information Technology	Extended Practicum in Information Technology (2 nd time)	13028015		X	X	X
Manufacturing	Practicum in Manufacturing 1 (1 st time)	13033000	X	X	X	X
Manufacturing	Practicum in Manufacturing 1 (2 nd time)	13033010		X	X	X
Manufacturing	Practicum in Manufacturing 2 (1 st time)	13033010	X	X		
Manufacturing	Extended Practicum in Manufacturing (1 st time)	13033005		X	X	X
Manufacturing	Extended Practicum in Manufacturing (2 nd time)	13033015		X	X	X
Energy	Practicum in Energy (1 st time)	TBD				
Energy	Practicum in Energy (2 nd time)	TBD				
Energy	Extended Practicum in Energy (1 st time)	TBD				
Energy	Extended Practicum in Energy (2 nd time)	TBD				

Appendix E – Industry-Based Certifications

**Table E-1
Industry-Based Certifications**

Career Cluster	Certification	Program of Study	2019-2020
Agriculture, Food & Natural Resources	Certified Veterinarian Assistant, Level 1	Animal Science	X
Agriculture, Food & Natural Resources	Feedyard Technician in Cattle Care and Handling	Animal Science	X
Agriculture, Food & Natural Resources	Landscape Irrigation Technician License	Plant Science	X
Agriculture, Food & Natural Resources	Licensed Veterinary Technician	Animal Science	X
Architecture & Construction	Autodesk Certified Professional in AutoCAD Civil 3D	Architectural Design	X
Architecture & Construction	Autodesk Certified Professional in Revit MEP Electrical	Architectural Design	X
Architecture & Construction	Autodesk Certified Professional or User in AutoCAD	Architectural Design	X
Architecture & Construction	Autodesk Certified Professional or User in Revit Architecture	Architectural Design	X
Architecture & Construction	Electrical Apprenticeship Certificate Level 1	Electrical	X
Architecture & Construction	NCCER Commercial Electrician	Electrical	X
Architecture & Construction	NCCER Electrical, Level 1	Electrical	X
Architecture & Construction	NCCER Electrical, Level 2	Electrical	X
Architecture & Construction	NCCER Electronic Systems Technician, Level 1	Electrical	X
Architecture & Construction	NCCER Electronic Systems Technician, Level 2	Electrical	X
Health Science	Certified Cardiographic Technician	Healthcare Diagnostics	X
Health Science	Certified Dental Assistant (CDA)	Healthcare Therapeutic	X
Health Science	Certified EKG/ECG Technician	Healthcare Diagnostics	X
Health Science	Clinical Medical Assistant	Healthcare Therapeutic	X
Health Science	Certified Nurse Aide/Assistant (CNA)	Nursing Science	X
Health Science	Certified Occupational Therapy Assistant	Medical Therapy	X
Health Science	Certified Ophthalmic Technician	Healthcare Therapeutic	X
Health Science	Certified Respiratory Therapist	Medical Therapy	X
Health Science	Certified Surgical Technologist	Healthcare Therapeutic	X
Health Science	Emergency Medical Technician	Emergency Services	X
Health Science	Licensed Dental Hygienist	Healthcare Therapeutic	X
Health Science	Licensed Dietetic Technician	Exercise Science and Wellness	X
Health Science	Licensed Vocational Nurse	Nursing Science	X
Health Science	Limited Licensed Radiology Technologist	Healthcare Diagnostics	X
Health Science	Medical Laboratory Assistant	Biomedical Science	X
Health Science	Orthopedic Technologist	Healthcare Therapeutic	X
Health Science	Patient Care Technician	Nursing Science	X
Health Science	Phlebotomy Technician	Healthcare Diagnostics	X
Health Science	Registered Dental Assistant	Healthcare Therapeutic	X
Health Science	Registered Diagnostic Medical Sonographer - Abdomen	Healthcare Diagnostics	X
Health Science	Registered Diagnostic Medical Sonographer - Obstetrics and Gynecology	Healthcare Diagnostics	X
Health Science	Registered Nurse	Nursing Science	X
Health Science	Registered Technologist - Cardiac-Interventional Radiography	Healthcare Diagnostics	X

Career Cluster	Certification	Program of Study	2019-2020
Health Science	Registered Technologist - Computed Tomography	Healthcare Diagnostics	X
Health Science	Registered Technologist - Magnetic Resonance Imaging	Healthcare Diagnostics	X
Health Science	Registered Technologist - Mammography	Healthcare Diagnostics	X
Health Science	Registered Technologist - Nuclear Medicine Technology	Healthcare Diagnostics	X
Health Science	Registered Technologist - Radiography	Healthcare Diagnostics	X
Health Science	Registered Technologist - Sonography	Healthcare Diagnostics	X
Health Science	Registered Technologist - Vascular Sonography	Healthcare Diagnostics	X
Health Science	Registered Technologist - Vascular-Interventional Radiography	Healthcare Diagnostics	X
Health Science	Registered Vascular Technology	Healthcare Diagnostics	X
Information Technology	Associate of (ISC) ² Designation	Information Technology Support and Services	X
Information Technology	App Development with Swift Certification Level 1	Programming and Software Development	X
Information Technology	CompTIA Network+	Networking Systems	X
Information Technology	C++ Certified Associate Programmer (CPA)	Programming and Software Development	X
Information Technology	Cisco Certified Design Associate (CCDA)	Information Technology Support and Services	X
Information Technology	Cisco Certified Entry Networking Technician (CCENT)	Networking Systems	X
Information Technology	Cisco Certified Network Associate - Cloud (CCNA Cloud)	Information Technology Support and Services	X
Information Technology	Cisco Certified Network Associate - Cyber Ops (CCNA Cyber Ops)	Information Technology Support and Services	X
Information Technology	Cisco Certified Network Associate - Data Center (CCNA Data Center)	Information Technology Support and Services	X
Information Technology	Cisco Certified Network Associate - Security (CCNA Security)	Networking Systems	X
Information Technology	Cisco Certified Network Associate - Service Provider (CCNA SP)	Networking Systems	X
Information Technology	CompTIA A+ Certification	Information Technology Support and Services	X
Information Technology	CompTIA IT Fundamentals+	Information Technology Support and Services	X
Information Technology	CompTIA Security+	Networking Systems	X
Information Technology	ESRI (Environmental Systems Research Institute) ArcGIS Desktop Entry	Programming and Software Development	X
Information Technology	Microsoft Technology Associate (MTA) Cloud Fundamentals	Networking Systems	X
Information Technology	Microsoft Technology Associate (MTA) Database Administration Fundamentals	Information Technology Support and Services	X
Information Technology	Microsoft Technology Associate (MTA) HTML5 Application Development Fundamentals	Information Technology Support and Services	X
Information Technology	Microsoft Technology Associate (MTA) Introduction to Programming Using HTML and CSS	Programming and Software Development	X
Information Technology	Microsoft Technology Associate (MTA) Introduction to Programming Using Java	Programming and Software Development	X
Information Technology	Microsoft Technology Associate (MTA) Introduction to Programming Using JavaScript	Programming and Software Development	X
Information Technology	Microsoft Technology Associate (MTA) Introduction to Programming Using Python	Programming and Software Development	X
Information Technology	Microsoft Technology Associate (MTA) Mobility and Device Fundamentals	Programming and Software Development	X
Information Technology	Microsoft Technology Associate (MTA) Networking Fundamentals	Networking Systems	X

Career Cluster	Certification	Program of Study	2019-2020
Information Technology	Microsoft Technology Associate (MTA) Security Fundamentals	Networking Systems	X
Information Technology	Oracle Certified Associate (OCA), JAVA SE 8 Programmer (1Z0-808)	Programming and Software Development	X
Information Technology	Oracle Certified Database Associate	Information Technology Support and Services	X
Information Technology	Unity Certified Programmer	Programming and Software Development	X
Information Technology	WD Certified Web Design Certification	Web Development	X
Manufacturing	Autodesk Certified Professional or User (ACU)- Inventor	Engineering	X
Manufacturing	Certified Electronics Systems Associate	Manufacturing Technology	X
Manufacturing	Certified SolidWorks Associate (CSWA)	Engineering	X
Manufacturing	FANUC Robot Operator 1	Advanced Manufacturing and Machinery Mechanics	X
Manufacturing	ISCET Associate-Level Certified Electronics Technicians (CET)	Manufacturing Technology	X
Manufacturing	Mastercam Associate Level Certification	Advanced Manufacturing and Machinery Mechanics	X
Manufacturing	Mastercam Certified Professional Mill Level 1 (CPgM1)	Manufacturing Technology	X
Manufacturing	Mastercam Professional Level Certification	Manufacturing Technology	X
Manufacturing	MSSC (Manufacturing Skills Standards Council) Certified Production Technician (CPT)	Manufacturing Technology	X
Manufacturing	NCCER Industrial Maintenance Mechanic, Level 1	Advanced Manufacturing and Machinery Mechanics	X
Manufacturing	NCCER Instrumentation, Level 1	Advanced Manufacturing and Machinery Mechanics	X
Manufacturing	NCCER Millwright, Level 1	Advanced Manufacturing and Machinery Mechanics	X
Manufacturing	NCCER Millwright, Level 2	Advanced Manufacturing and Machinery Mechanics	X
Manufacturing	NIMS (National Institute for Metal Working Skills) Industrial Technology Maintenance (ITM) - Basic Mechanical Systems	Manufacturing Technology	X
Manufacturing	NIMS (National Institute for Metal Working Skills) Industrial Technology Maintenance (ITM) - Basic Pneumatic Systems	Manufacturing Technology	X
Manufacturing	NIMS (National Institute for Metal Working Skills) Industrial Technology Maintenance (ITM) - Process Control Systems	Advanced Manufacturing and Machinery Mechanics	X
Manufacturing	NIMS (National Institute for Metal Working Skills) Machining Level I - CNC Milling: Operations	Advanced Manufacturing and Machinery Mechanics	X
Manufacturing	NIMS (National Institute for Metal Working Skills) Machining Level I - CNC Milling: Programming Setup & Operations	Manufacturing Technology	X
Manufacturing	NIMS (National Institute for Metal Working Skills) Machining Level I - CNC Turning: Operations	Manufacturing Technology	X
Manufacturing	NIMS (National Institute for Metal Working Skills) Machining Level I - CNC Turning: Programming Setup & Operations	Manufacturing Technology	X
Manufacturing	NIMS (National Institute for Metal Working Skills) Machining Level I - Drill Press Skills I	Manufacturing Technology	X
Manufacturing	NIMS (National Institute for Metal Working Skills) Machining Level I - Measurement, Material & Safety	Manufacturing Technology	X