CTE Indicator Code Autocalculation Instructions
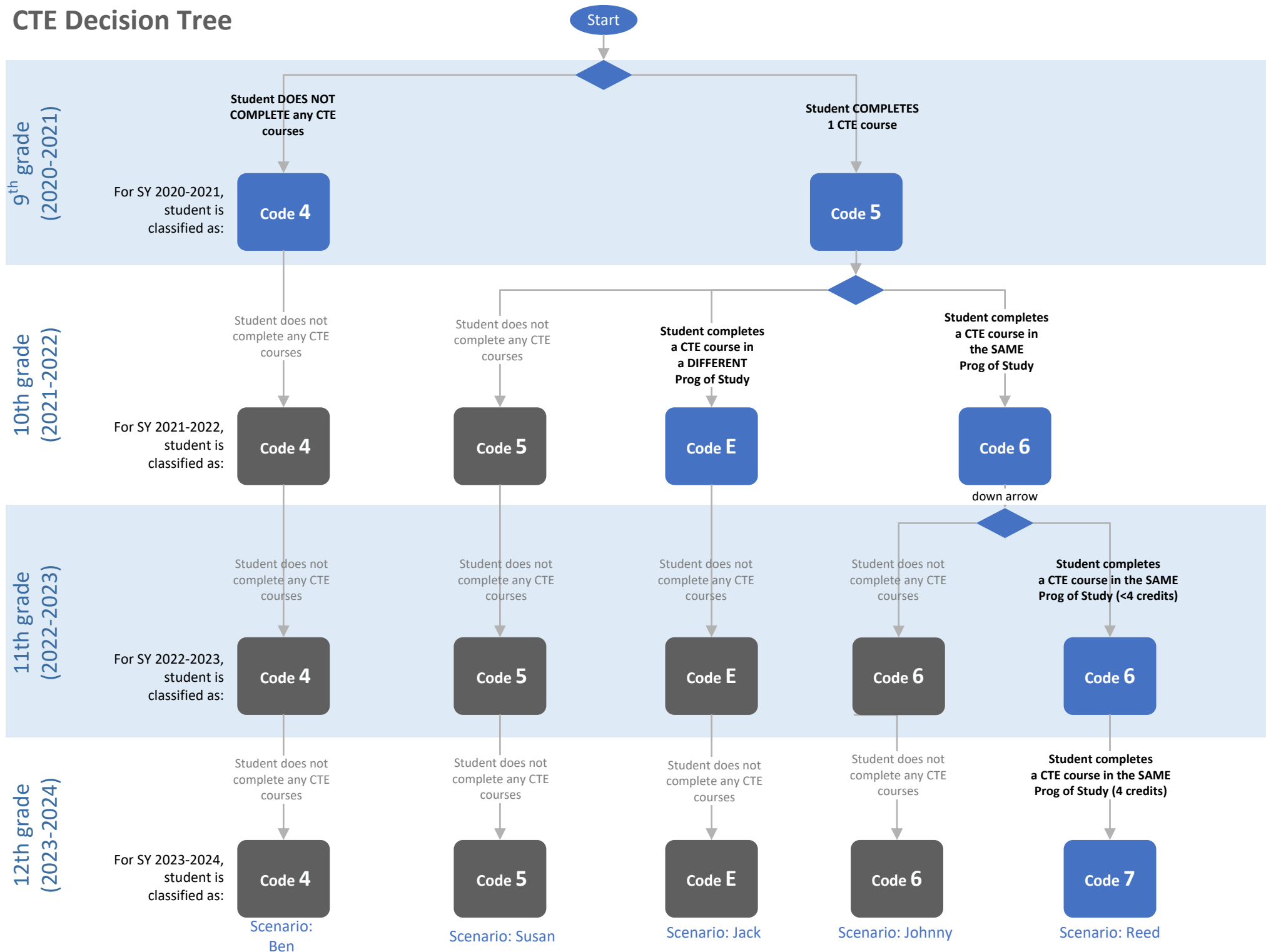
For LEAs and Vendors

APPENDIX

- Decision Tree
- Decision Tree Summary
- Scenarios
- Scenarios Worksheet
- Validation Rules

CTE Decision Tree

Start

9th grade (2020-2021)

Student DOES NOT COMPLETE any CTE courses

Student COMPLETES 1 CTE course

For SY 2020-2021, student is classified as:

Code 4

Code 5

10th grade (2021-2022)

Student does not complete any CTE courses

Student does not complete any CTE courses

Student completes a CTE course in a DIFFERENT Prog of Study

Student completes a CTE course in the SAME Prog of Study

For SY 2021-2022, student is classified as:

Code 4

Code 5

Code E

Code 6

down arrow

11th grade (2022-2023)

Student does not complete any CTE courses

Student does not complete any CTE courses

Student does not complete any CTE courses

Student does not complete any CTE courses

Student completes a CTE course in the SAME Prog of Study (<4 credits)

For SY 2022-2023, student is classified as:

Code 4

Code 5

Code E

Code 6

Code 6

12th grade (2023-2024)

Student does not complete any CTE courses

Student does not complete any CTE courses

Student does not complete any CTE courses

Student does not complete any CTE courses

Student completes a CTE course in the SAME Prog of Study (4 credits)

For SY 2023-2024, student is classified as:

Code 4

Code 5

Code E

Code 6

Code 7

Scenario: Ben

Scenario: Susan

Scenario: Jack

Scenario: Johnny

Scenario: Reed

In 2020-2021, the cohort is in 9th grade

- Ben does not complete any CTE courses is classified as a Code 4.
- Susan, Jack, Johnny, and Reed complete 1 CTE course and are classified as a Code 5.

In 2021-2022, the cohort is in 10th grade.

- Ben still has not taken any CTE courses and remains a Code 4.
- Susan does not complete any new CTE courses in 2021-2022 and remains a Code 5.
- Jack completes a CTE course in a different program of study as last year's course and is classified as a Code E.
- Johnny and Reed complete a CTE course in the same program of study as last year's course and are classified as a Code 6.

In 2022-2023, the cohort is in 11th grade.

- Susan does not complete any new CTE courses in 2022-2023 and remains a Code 5.
- Jack does not complete any new CTE courses in 2022-2023 and remains a Code E.
- Johnny does not complete any new CTE courses in 2022-2023 and remains a Code 6.
- Reed completes a third CTE course in the same program of study as previously for a total of less than four credits and remains a Code 6.

In 2023-2024, the cohort is in 12th grade.

- Susan does not complete any new CTE courses in 2023-2024and remains a Code 5.
- Jack does not complete any new CTE courses in 2023-2024and remains a Code E.
- Johnny does not complete any new CTE courses in 2023-2024 and remains a Code 6.
- Reed completes a fourth CTE course in the same program of study for a total of four credits and is classified as a Code 7.

CTE Indicator Autocoding – Course Completion and Annual Coding Student Scenarios

Code 4 (Not CTE) A student who did not complete any high-school CTE course.
Code 5 (CTE Program Participant) A student completing EITHER: only one CTE course for any number of credits OR more than one course for less than two credits (the student does not have to pass or receive credit).
Code E (CTE Program Explorer) A student completing two or more high school CTE courses for two or more credits and not a participant, concentrator or completer (the student does not have to pass or receive credit).

	Natasha Code 6 in two programs of study. *Moves to Texas her Freshman year.* Natasha moves to Texas her Freshman year; completes courses in multiple programs of study and is a code 6 in two of them.	**Luke** Code 6 in one program of study. *Moves out of state before graduating.* Luke completes courses in one program of study and becomes a code 6; then moves out of state his senior year.	**Carol** Code 6 in one program of study and code 7 in another. Carol dreams of flying and completes courses in two programs of study and is a code 6 in one and a code 7 in another.	**Tony** Code 7 in one program of study. Tony completes courses in one program of study only. He is a code 7.	**Nick** Code 6 in one program of study. Nick completes courses in one program of study, moves out of state for a year, returns, graduates. He is a code 6.	**Bruce** Code 7 in one program of study. Bruce completes courses in one program of study and moves out of state before his junior year. He is a code 7.
6th Grade 2017-2018	*Not in Texas*	No CTE Courses **Code 4**	No CTE Courses **Code 4**	No CTE Courses **Code 4**	No CTE Courses **Code 4**	No CTE Courses **Code 4**
7th Grade 2018-2019	*Not in Texas*	No CTE Courses **Code 4**	Investigating Careers **Code 4**	No CTE Courses **Code 4**	No CTE Courses **Code 4**	No CTE Courses **Code 4**
8th Grade 2019-2020	*Not in Texas*	No CTE Courses **Code 4**	No CTE Courses **Code 4**	Principles of Manufacturing **Code 5**	Principles of GPA **Code 5**	Principles of Health Sci. **Code 5**
9th Grade 2020-2021	Intro to American Law **Code 5**	Principles of Biosciences **Code 5**	Principles of Applied Engineering Introduction to Aircraft Technology **Code E**	Principles of Applied Engineering **Code 6 (Adv. Manuf. and Machinery Mechanics)**	Federal Law Enforcement and Protective Services **Code 6 (Government and Public Administration)** *Moves out of state in July*	Medical Terminology **Code 6 (Healthcare Diagnostics)**
10th Grade 2021-2022	Criminal Investigation **Code 6 (Law Enforcement)**	Biotechnology I **Code 6 (Bio-Medical Science)**	Manufacturing Engineering Technology I **Code 6 (Engineering)** Occ. Safety & Env. Tech. I **Code 6 (Aviation Maintenance)**	Robotics I **Code 6 (Adv. Manuf. and Machinery Mechanics)**	*Lives out of state this year, then moves back to Texas in July 2022, enrolls in a different district* *No CTE Indicator reported this year*	Health Science Theory/Health Science Clinical (2 credits) **Code 7 (Healthcare Diagnostics)** *Moves out of State in July*
11th Grade 2022-2023	**Code 6 (Law Enforcement)** Foundations of Cybersecurity	Biotechnology II **Code 6 (Bio-Medical Science)** *Moves out of state in July*	**Code 6 (Aviation Maintenance)** Aerospace Engineering (PLTW) **Code 6 (Engineering)**	Robotics II **Code 7 (Adv. Manuf. and Machinery Mechanics)**	Dimensions of Diplomacy **Code 6 (Government and Public Administration)**	*Lives out of state this year* *No CTE Indicator reported this year*
12th Grade 2023-2024	**Code 6 (Law Enforcement)** Computer Science I **Code 6 (Cybersecurity)**	*Lives out of state* *No CTE Indicator reported this year*	**Code 6 (Aviation Maintenance)** Scientific Research and Design **Code 7 (Engineering)**	Practicum in Entrepreneurship **Code 7 (Adv. Manuf. and Machinery Mechanics)**	No CTE Courses **Code 6 (Government and Public Administration)**	*Lives out of state this year* *No CTE Indicator reported this year*
Program of Study	36 – Law Enforcement 15 - Cybersecurity	9 - Bio-Medical Science	8 - Aviation Maintenance 22 - Engineering	2 - Adv. Manufacturing and Machinery Mechanics	28 - Government and Public Administration	32 - Healthcare Diagnostics
Federal Career Cluster	F13 - Law, Public Safety… F16 – STEM	F16 - STEM	F16 – STEM F17 – Trans. Dist. and Logistics	F14 - Manufacturing	F13 - Law, Public Safety…	F9 - Health Science

CTE Indicator Autocoding – Course Completion and Annual Coding Student Scenarios

Code 6 (CTE Program Concentrator) A student completing and passing two or more high-school CTE courses for at least two credits within the same program of study and not a completer.

Code 7 (CTE Program Completer) A student completing and passing three or more high-school CTE courses for four or more credits within a program of study, including one level three or level four course from within the same program of study.

Peter
Code 6 in one program of study.
Peter completes an engineering course but changes his program of study to biomedical science in the 10th grade. He takes only one more course in the program of study and no more CTE courses. He is coded a 6.

Peggy
Code 6 in District A and after moving remains a code 6 in District B.
Peggy completes courses in one program of study and becomes a code 6 in the 11th grade; then moves to another district to complete the 12th grade but does not complete any new CTE courses and remains a code 6.

T'Challa
Code 7 in one program of study.
T'Challa completes a Government & Public Administration program of study, focusing on leadership and diplomacy. Since the law enforcement course is not in the program of study, it does not advance his indicator level. He is a code 7.

Shuri
Code 6 in one program of study.
Shuri completes courses in engineering but stops short of becoming a CTE Completer. She completes three courses for 3 credits in the Engineering program of study. She is a code 6.

Phil
Code 4 in one district.
Phil never takes any CTE courses and focusses instead on baseball and tinkering on his red Corvette. Because he never attempted a CTE course, he is a code 4.

Stanley
Code E in one district.
Stanly takes CTE courses in two career clusters, exploring CTE courses, but never concentrates in one program of study. Stanley is a code E.

	Peter	Peggy	T'Challa	Shuri	Phil	Stanley
6th Grade 2017-2018	No CTE Courses **Code 4**	*Enrolls in district A* No CTE Courses **Code 4**	Lives outside U.S.A.	Lives outside U.S.A.	No CTE Courses **Code 4**	No CTE Courses **Code 4**
7th Grade 2018-2019	No CTE Courses **Code 4**	No CTE Courses **Code 4**	Lives outside U.S.A.	Lives outside U.S.A.	No CTE Courses **Code 4**	No CTE Courses **Code 4**
8th Grade 2019-2020	No CTE Courses **Code 4**	No CTE Courses **Code 4**	Lives outside U.S.A. *Moves to Texas*	Lives outside U.S.A. *Moves to Texas*	No CTE Courses **Code 4**	No CTE Courses **Code 4**
9th Grade 2020-2021	Principles of Applied Engineering **Code 5**	Foundations of Cybersecurity **Code 5**	Principles of Government and Public Administration **Code 5**	Principles of Applied Engineering **Code 5**	No CTE Courses **Code 4**	No CTE Courses **Code 4**
10th Grade 2021-2022	Principles of Biomedical Science **Code E**	AP Computer Science Principles **Code 6 (Cybersecurity)**	Political Science I Law Enforcement I **Code 6** Government and Public Administration	Manufacturing Engineering Technology I **Code 6 (Engineering)**	No CTE Courses **Code 4**	Animation I **Code 5**
11th Grade 2022-2023	Biotechnology I **Code 6 (Biomedical Science)**	Cybersecurity Capstone **Code 6 (Cybersecurity)** *Moves to district B in the summer*	Political Science II **Code 6** Government and Public Administration	National Security **Code 6 (Engineering)**	No CTE Courses **Code 4**	Advertising **Code E**
12th Grade 2023-2024	***No CTE Courses*** **Code 6 (Biomedical Science)**	No CTE Courses **Code 6 (Cybersecurity)**	Public Management and Administration **Code 7 (Government and Public Administration)**	**Code 6 (Engineering)** Scientific Research and Design	No CTE Courses **Code 4**	Principles of Hospitality and Tourism **Code E**
Program of Study	9 - Bio-Medical Science	15 - Cybersecurity	28 - Government and Public Admin.	22 - Engineering	None	None
Federal Career Cluster	F16 – STEM	F16 – STEM	F8 - Government & Public Admin.	F16 - STEM	None	None

CTE Indicator Autocoding – Course Completion and Annual Coding Student Scenarios

	Regional Program of Study Codes 6 & 7 Showing as a Code E in Un-Approved Region	**Ben**	**Susan**	**Jack**	**Johnny**	**Reed**	**James**
	When a student completes enough regional program of study courses and completes a school year in a non-approved region, if they have enough credits to be coded a 6 or 7, their CTE Indicator code will revert to a Code E, until they are enrolled in an approved region for the program of study.	*Code 4 in one district.* Ben focuses on academics and football in high school and does not take any CTE courses. He is a code 4.	*Code 5 in one district.* Susan is on the swim team and takes one course in Arts and AV but no other CTE courses. She is a code 5.	*Code E in one district.* Jack is interested in becoming an artist and writer. Jack takes a few courses in different programs of study but never concentrates or completes a program of study. He is a code E.	*Code 6 in one district.* Johnny wants to be a firefighter and takes a couple of courses in the Emergency Services program of study but does not complete the sequence. He is a code 6.	*Code 7 in one district.* Reed is interested in science and takes math, physics, and completes a sequence in the Engineering program of study. He is a code 7.	*Code 7 in one district.* James dreams of joining the Marine Corps as a fighter pilot one day. James completes the Aviation Flight regional program of study. He is a code 7.
6th Grade *2017-2018*		No CTE Courses *Code 4*	No CTE Courses *Code 4*	No CTE Courses *Code 4*	No CTE Courses *Code 4*	No CTE Courses *Code 4*	No CTE Courses *Code 4*
7th Grade *2018-2019*		No CTE Courses *Code 4*	No CTE Courses *Code 4*	No CTE Courses *Code 4*	No CTE Courses *Code 4*	No CTE Courses *Code 4*	No CTE Courses *Code 4*
8th Grade *2019-2020*		No CTE Courses *Code 4*	No CTE Courses *Code 4*	No CTE Courses *Code 4*	No CTE Courses *Code 4*	No CTE Courses *Code 4*	No CTE Courses *Code 4*
9th Grade *2020-2021*		No CTE Courses *Code 4*	Principles of Arts, A/V Technology, and Communications *Code 5*	Principles of Arts, A/V Technology, and Communications *Code 5*	Principles of Law, Public Safety, Corrections, and Security *Code 5*	Principles of Applied Engineering *Code 5*	Introduction to Aerospace and Aviation Introduction to Aircraft Technology *Code 6*
10th Grade *2021-2022*		No CTE Courses *Code 4*	No CTE Courses *Code 5*	Entrepreneurship *Code E*	Firefighter I *Code 6 (Emergency Services)*	Manufacturing Engineering Technology I *Code 6 (Engineering)*	Introduction to Unmanned Aerial Vehicles *Code 6 (Aviation Flight)*
11th Grade *2022-2023*		No CTE Courses *Code 4*	No CTE Courses *Code 5*	No CTE Courses *Code E*	No CTE Courses *Code 6 (Emergency Services)*	Digital Electronics *Code 6 (Engineering)*	Aviation Ground School *(does not pass)* *Code 6 (Aviation Flight)*
12th Grade *2023-2024*		No CTE Courses *Code 4*	No CTE Courses *Code 5*	No CTE Courses *Code E*	No CTE Courses *Code 6 (Emergency Services)*	Engineering Design and Problem Solving *Code 7 (Engineering)*	Aerospace Engineering *Code 7 (Aviation Flight)*
Program of Study		None	None	None	21 - Emergency Services	22 - Engineering	56 – Aviation Flight
Federal Career Cluster		None	None	None	8 - Government & Public Administration	F16 – STEM	F17 - Transportation, Distribution, and Logistics

CTE Indicator Autocoding – Course Completion and Annual Coding Student Scenarios

Assumptions & Notes
Unless noted, all scenarios assume each student completes, passes and receives credit for each course. A few scenarios are noted where students do not pass or complete a course to illustrate the impact on auto-coding.

Clint
Code 4 in one district.
Clint enjoys the outdoors and archery. He does not complete the CTE course in his freshman year. He drops out of high school in the middle of his sophomore year. He remains a code 4.

Sam
Code 6 in one district.
Sam has a natural affinity for birds and trains a falcon. After the principles course he takes additional Agriculture courses in the Animal Science program and fails to complete one of them. He eventually becomes a code 7.

Diana
Regional Code E, 6 and 7 in one district after moving regions.
Diana dreams of flying her own plane one day. She takes regional aviation courses in an approved region, moves to a non-approved region, and eventually moves back to her original approved region. She ends up a code 7.

Arthur
Regional code E in one district. in a non-approved region.
Arthur is fascinated with the sea and aquatic life. He takes regional maritime program of study courses in a non-approved region. He is a code E.

Clark
Regional code 7 in one district.
Clark is interested in becoming a journalist in the local newspaper. Clark completes the regional program of study in an approved region. He is a code 7.

Steve
Code 4 in one district.
Steve always wanted to serve his country in uniform. He completes ROTC courses in high school and joins the U.S. Army. ROTC are not CTE courses in 2021-2022. He remains a code 4.

	Clint	Sam	Diana	Arthur	Clark	Steve
6th Grade 2017-2018	Code 4	No CTE Courses Code 4	Introduction to Aerospace and Aviation Code 5	No CTE Courses Code 4	Graphic Design and Illustration I Code 5	No CTE Courses Code 4
7th Grade 2018-2019	No CTE Courses Code 4	No CTE Courses Code 4	Introduction to Unmanned Aerial Vehicles Code 6 (Aviation)	Principles of Maritime Science Code 5	No CTE Courses Code 5	No CTE Courses Code 4
8th Grade 2019-2020	No CTE Courses Code 4	No CTE Courses Code 4	No CTE Courses Code 6 (Aviation) Moves to region B in the summer	No CTE Courses Code 5	No CTE Courses Code 5	No CTE Courses Code 4
9th Grade 2020-2021	Principles of Agriculture, Food, and Natural Resources (does not complete) Code 4	Principles of Agriculture, Food, and Natural Resources Code 5	Code E No CTE Courses Code E (Aviation) in non-approved region B	Maritime Science I Code E	Printing and Imaging Technology I/Lab Code 6 (Print & Imaging)	Reserve Officers Training Corps (ROTC) I (not CTE) Code 4
10th Grade 2021-2022	No CTE Courses Drops out of high school Code 4	Livestock Production/Lab Code 5	Code E No CTE Courses Code E (Aviation) in non-approved region B – Moves back to region A	Maritime Science II Code E	Printing and Imaging Technology II/Lab Code 7 (Print & Imaging)	Reserve Officers Training Corps (ROTC) II (not CTE) Code 4
11th Grade 2022-2023	No CTE Courses Does not return to high school Code 4	Veterinary Medical Applications/Lab Code 6 (Animal Science)	Aerospace Engineering Code 6 (Aviation)	Practicum in Transportation Systems Code E	Practicum in Printing and Imaging Technology Code 7 (Print & Imaging)	Reserve Officers Training Corps (ROTC) III (not CTE) Code 4
12th Grade 2023-2024	No CTE Courses Does not return to high school Code 4	Advanced Animal Science Code 7 (Animal Science)	Scientific Research and Design Code 7 (Aviation)	No CTE Courses Code E	No CTE Courses Code 7 (Print & Imaging)	Reserve Officers Training Corps (ROTC) IV (not CTE) Code 4
Program of Study	None	4 - Animal Science	56 – Aviation Flight	58 - Maritime	64 – Printing and Imaging	None
Federal Career Cluster	None	F1 - Agriculture, Food, and Natural Resources	F17 - Transportation, Distribution, and Logistics	F17 - Transportation, Distribution, and Logistics	F3 - Arts, AV, Technology, and Communications	None

CTE Indicator Autocoding – Course Completion and Annual Coding Student Scenarios

2021-2022 Update
In the 2021-2022 school year students completing summer school courses may have their CTE course completion data reported through PEIMS Submission 4 (extended Year) for CTE Indicator autocalcualtion credit.

Bruce
Code 5 in one district.
Bruce dreams of one day becoming an industrialist and philanthropist. He starts the Entrepreneurship program of study in the 8th grade by completing Principles of Business, Marketing, and Finance over the summer. At the end of the school year he is a code 5.

Timothy
Code 7 in one district.
Tim is interested in becoming the "world's greatest detective." In the summer at the end of his senior year Tim completes a practicum course over the summer, interning at GCPD and gaining valuable work experience and a certification.
He is a code 7.

Virginia
Code 7 in one district.
Virginia likes accounting classes and dreams of one day becoming the CEO of a defense contractor technology corporation. She completes a project-based learning project of value at a local corporation over the summer of her 12th grade.
She is a code 7.

	Bruce	Timothy	Virginia
6th Grade	No CTE Courses *Code 4*	No CTE Courses *Code 4*	No CTE Courses *Code 4*
7th Grade	No CTE Courses *Code 4*	No CTE Courses *Code 4*	No CTE Courses *Code 4*
8th Grade	Principles of Business, Marketing, and Finance (Summer Bridge) *Code 5*	Principles of Law, Public Safety, Corrections, and Security *Code 5*	Money Matters *Code 5*
9th Grade		Criminal Investigation *Code 6 (Law enforcement)*	Accounting I *Code 6 (Accounting and Financial Services)*
10th Grade		Forensic Psychology *Code 6 (Law enforcement)*	Accounting II *Code 6 (Accounting and Financial Services)*
11th Grade		No CTE Courses *Code 6 (Law enforcement)*	Career Preparation I (summer) *Code 7 (Accounting and Financial Services)*
12th Grade		Practicum in Law, Public Safety, Corrections, and Security - First Time Taken (summer) *Code 7 (Law Enforcement)*	No CTE Courses *Code 7 (Accounting and Financial Services)*
Program of Study	None	36 – Law Enforcement	1 - Accounting and Financial Services
Federal Career Cluster	None	F13 - Law, Public Safety…	F7 - Finance

Purpose

The purpose of this document is to explore a range of student Career and Technical Education (CTE) scenarios in detail to help local education agencies and vendors better understand the logic behind the TEA CTE autocalculations. This document complements the Illustrated Scenarios document, which explores a wider range of scenarios at a higher level.

Note: in all scenarios below students must either complete a single semester CTE course OR the last semester of a multi-semester course in order to have the course count toward CTE indicator calculation. All scenarios reflect students passing all courses unless noted otherwise.
- For codes 5 (Participant) and code E (Explorer) students must complete but do not have to pass courses.
- For codes 6 (Concentrator) and code 7 (Completer) students must complete the course and pass the course.

Example: In Amanda's freshman (9th grade) year she completes the first semester of a two-semester course in Principles of Arts, A/V Technology, and Communications. In her sophomore (10th grade) year she completes the second semester of the course. The course would not count toward CTE indicator calculation until she completed the last semester (2nd) of the two-semester course.

For more information on course sequence codes, contact your local TSDS PEIMS coordinator and discuss C135 (COURSE-SEQUENCE-CODE) TSDS Web-Enabled Data Standards table information.

Scenarios

Student 1: Code 4 – not participating in CTE

Ben focuses on academics and football in high school and does not take any CTE courses. Ben never takes a CTE course and is coded a 4 (Not CTE) each year for his high-school career.

Ben	9th Grade CTE Courses	10th Grade CTE Courses	11th Grade CTE Courses	12th Grade CTE Courses
CTE Courses Completed	None	None	None	None
Annual Reported CTE Indicator Code	Code 4	Code 4	Code 4	Code 4

Student 2: Code 5 - participating in CTE

Susan is on the swim team and takes one course in Arts and A/V but no other CTE courses. In her freshman year she completes Principles of Arts, A/V Technology, and Communications and is coded a 5 (Participant). She does not take or complete any other CTE courses in high school and remains reported a code 5 each subsequent year.

Susan	9th Grade CTE Courses	10th Grade CTE Courses	11th Grade CTE Courses	12th Grade CTE Courses
CTE Courses Completed	Principles of Arts, A/V Technology, and Communications	None	None	None
Annual Reported CTE Indicator Code	Code 5	Code 5	Code 5	Code 5

Student 3: Code E – exploring CTE

Jack is interested in becoming an artist and writer. Jack takes a few courses in different programs of study but never concentrates or completes a program of study. In his freshman year he completes Principles of Arts, A/V Technology, and Communications and is coded a 5 (Participant). His sophomore year he completes the Entrepreneurship course (which is in a different program of study and career cluster) and is coded an E (Explorer). He is coded an E (Explorer) because he completed two or more high school CTE courses for two or more credits in different programs of study, and therefore is not a participant, concentrator, or completer. He does not take or complete any other CTE courses in high school and remains reported a code E (Explorer) each subsequent year.

Jack	9th Grade CTE Courses	10th Grade CTE Courses	11th Grade CTE Courses	12th Grade CTE Courses
CTE Courses Completed	Principles of Arts, A/V Technology, and Communications	Entrepreneurship	None	None
Annual Reported CTE Indicator Code	Code 5	Code E	Code E	Code E

Student 4: Code 6 – concentrating in the Emergency Services program of study 3

Johnny wants to be a firefighter and takes a couple of courses in the Emergency Services program of study but does not complete the sequence. Johnny completes Principles of Law, Public Safety, Corrections, and Security in his freshman year and is coded a 5 (Participant). In his sophomore year he completes a course in the same program of study - Firefighter I. At this point Johnny is coded a 6 (Concentrator) because he completes, passes, and receives credit in 2 or more CTE courses for at least 2 credits within the same program of study. He does not take or complete any other CTE courses in high school and remains reported a code 6 (Concentrator) in the Emergency Services program of study each subsequent year.

Johnny	9th Grade CTE Courses	10th Grade CTE Courses	11th Grade CTE Courses	12th Grade CTE Courses
CTE Courses Completed	Law, Public Safety, Corrections, and Security	Firefighter I	None	None
Annual Reported CTE Indicator Code	Code 5	Code 6 (Emergency Services)	Code 6 (Emergency Services)	Code 6 (Emergency Services)

Student 5: Code 7 – completing the Engineering program of study

Reed is interested in science and takes math and physics courses, and he completes a sequence in the Engineering program of study. Reed completes Principles of Applied Engineering in his freshman year and is coded a 5 (Participant). In his sophomore year he completes a course in the same program of study - Manufacturing Engineering Technology I. At this point Reed is coded a 6 (Concentrator) because he completes, passes, and receives credit in 2 or more CTE courses for at least 2 credits within the same program of study. His junior year Reed completes the Digital Electronics course in the same program of study, but because he did not complete 4 or more credits in the same program of study, he is still coded a 6 (Concentrator) until he completes enough courses in the program of study and receives 4 or more credits. In his senior year Reed completes Engineering Design and Development (PTLW) in the program of study sequence. Because Reed completes at least one level 3 or 4 course and meets all other "completer" definitions, he is coded a code 7 (Completer).

Reed	9th Grade CTE Courses	10th Grade CTE Courses	11th Grade CTE Courses	12th Grade CTE Courses
CTE Courses Completed	Principles of Applied Engineering	Manufacturing Engineering Technology I	Digital Electronics	Engineering Design and Development (PTLW)
Annual Reported CTE Indicator Code	Code 5	Code 6 (Engineering)	Code 6 (Engineering)	Code 7 (Engineering)

Student 6: Code 6 - concentrating in the Biomedical Science program of study while completing courses from other programs of study

After being bitten by a spider, Peter becomes fascinated with science. Peter completes Principles of Applied Engineering his freshman year and is coded a 5 (Participant). He then completes Principles of Biomedical Science his sophomore year. Because this second course is from a different program of study, he is coded an E (Explorer) at this time. His junior year he takes Biotechnology I. Because this course is also in the Biomedical Science program of study course sequence, he is coded a 6 (Concentrator) in this program of study. He does not take another CTE course and remains a code 6 (Concentrator) his senior year.

Peter	9th Grade CTE Courses	10th Grade CTE Courses	11th Grade CTE Courses	12th Grade CTE Courses
CTE Courses Completed	Principles of Applied Engineering	Principles of Biomedical Science	Biotechnology I	None
Annual Reported CTE Indicator Code	Code 5	Code E	Code 6 (Biomedical Science)	Code 6 (Biomedical Science)

Student 7: Code 6 – concentrating in the Engineering program of study while completing courses from other programs of study

Shuri is interested in science and technology. Shuri completes Principles of Applied Engineering her freshman year and is coded a 5 (Participant). She then completes Manufacturing Engineering Technology I her sophomore year. Because this second course is also in the Engineering program of study course sequence, she is coded a 6 (Concentrator) in this program of study. In her junior year Shuri becomes interested in the military and completes a CTE course in National Security. While this is also a CTE course, it is in a different program of study than Engineering. Since she was already a code 6 (Concentrator) in the Engineering program of study, she remains a code 6 in this program of study. In her senior year Shuri completes a CTE course in Scientific Research and Design. Because this course is one credit, she has not completed 3 or more CTE courses for 4 or more credits within the same program of study, and therefore remains a code 6 (Concentrator).

Shuri	9th Grade CTE Courses	10th Grade CTE Courses	11th Grade CTE Courses	12th Grade CTE Courses
CTE Courses Completed	Principles of Applied Engineering	Manufacturing Engineering Technology I	National Security	Scientific Research and Design
Annual Reported CTE Indicator Code	Code 5	Code 6 (Engineering)	Code 6 (Engineering)	Code 6 (Engineering)

Student 8: Code 7 – completing the Engineering program of study while concentrating in the Aviation Maintenance program of study

Carol always dreamed of flying in the military. Carol completes both Principles of Applied Engineering and Introduction to Aircraft Technology in her freshman year. Because these two courses are from different programs of study, she is coded an E (Explorer) at the end of her freshman year. Her sophomore year she completes both Manufacturing Engineering Technology I and Occupational Safety & Environmental Technology I. Because the one course is from the Engineering program of study and the other course is from the Aviation Maintenance program of study, and the first two courses she took are also from those programs of study, she is a code 6 (Concentrator) in two programs of study at this time. In her junior year she completes Aerospace Engineering (PLTW). While she completes, passes, and receives credit for three CTE courses in the Engineering program of study, the total credits for these three courses only totals 3 credits; she would need to total 4 or more credits with at least one level 3 or 4 course to be coded a 7 (Completer). Therefore, at the end of her junior year she is still coded a 6 (Concentrator) in both programs of study. In her senior year she completes the Scientific Research and Design course. This last level 4 course adds enough credits to code her a 7 (Completer) in the Engineering program of study. She also remains a code 6 (Concentrator) in the Aviation Maintenance program of study as well.

Carol	9th Grade CTE Courses	10th Grade CTE Courses	11th Grade CTE Courses	12th Grade CTE Courses
CTE Courses Completed	Principles of Applied Engineering Introduction to Aircraft Technology	Manufacturing Engineering Technology I Occ. Safety & Env. Tech. I	Aerospace Engineering (PLTW)	Scientific Research and Design
Annual Reported CTE Indicator Code	Code E	Code 6 (Engineering) Code 6 (Aviation Maintenance)	Code 6 (Engineering) Code 6 (Aviation Maintenance)	Code 7 (Engineering) Code 6 (Aviation Maintenance)

Student 9: Code 7 – completing the Aviation Flight regional program of study after failing one course

James wants to join the U.S. Marine Corps, fly helicopters, and explore engineering. His freshman year James completes and passes both Introduction to Aerospace and Aviation and Introduction to Aircraft Technology courses and is a code 6 (Concentrator). His sophomore year James completes and passes Introduction to Unmanned Aerial Vehicles and is still a code 6 (Concentrator). His junior year James completes but fails* (due to excessive absences) program of study course Aviation Ground School. At the end of his 3rd year, while James completes 3 or more courses for 4 or more credits with one or more a level 3 or 4 course, failing one of the courses keeps him from progressing to a code 7 (Completer) at this time. His senior year James completes and passes Aerospace Engineering. Because James passes and completes this course, he meets all criteria to be coded a code 7 (Completer) in the Aviation Flight regional program of study.

James	9th Grade CTE Courses	10th Grade CTE Courses	11th Grade CTE Courses	12th Grade CTE Courses
CTE Courses Completed	Introduction to Aerospace and Aviation Introduction to Aircraft Technology	Introduction to Unmanned Aerial Vehicles	Aviation Ground School (completed but failed the course)	Aerospace Engineering
Annual Reported CTE Indicator Code	Code 6 (Regional - Aviation Flight)	Code 6 (Regional - Aviation Flight)	Code 6 (Regional - Aviation Flight)	Code 7 (Regional - Aviation Flight)

*To progress to a code 6 or 7 from a lower code value, a student must both pass and complete each course. A student can complete a course and still fail due to multiple reasons. For more information on Pass/Fail Credit Indicator codes, contact your local TSDS PEIMS coordinator and discuss C136 (PASS/FAIL-CREDIT-INDICATOR-CODE) TSDS Web-Enabled Data Standards table information.

Purpose

The purpose of this document is to provide validation rules that can be used by local education agencies and vendors who are replicating TEA CTE autocalculation logic for data quality assurance. They can use these rules to verify that their outputs are consistent with TEA logic.

Validation Rules

ID	Title	Rule	Elaboration
1	All Students Have a CTE Indicator Code	All students in grades 6-12 will have at least one CTE indicator code in the output file.	Each student in grades 6-12 must have at least one CTE indicator code written in the output data.
2	Students May Have Multiple CTE Indicator Codes	A student may have more than one CTE indicator code if they are a code 6 (concentrator) or code 7 (completer) in different programs of study.	A student may not be a code 6 and 7 in the same program of study within any school year CTE calculation.
3	All School Years are the Same for Each Individual Student's Records in the Output File	All records for each individual student shall be the same school year for all records.	If a student has multiple output file records, write out the same school year (latest school year) for each record for that student. No student shall have multiple school years in the output file.
4	Code 6 and 7 in Different Programs of Study	A student may be a code 6 (concentrator) and code 7 (completer) in different programs of study in the same school year. A student can also be a code 6 in multiple programs of study, and/or a code 7 in multiple programs of study in the same school year.	
5	No Code 6 or Code 7 in the Same Program of Study	A student cannot be both a code 6 (concentrator) and code 7 (completer) in the same program of study in the same school year.	
6	Code 6 or Code 7 and Code E	A student may only be a code 6 (concentrator) and/or code 7 (completer) AND a code E (explorer) IF the course completion records generating the code E are for a regional program of study in an un-approved geographic region for the program of study.	

ID	Title	Rule	Elaboration
7	Code 6 or Code 7 and Not a Code 4, Not Code 5, or Not Statewide Program of Study Code E	A student may be a code 6 (concentrator) or code 7 (completer) in different programs of study but may not ALSO be a Code 4 (not CTE) in the same school year.

A student may be a code 6 or code 7 in different programs of study but may not ALSO be a Code 5 (participant) in the same school year.

A student may be a code 6 or code 7 in different programs of study but may not ALSO be code E (explorer) for a statewide program of study in the same school year. | By definition a student cannot be a code 4 and any other code in the output file. The same is true of a code 5; by definition a student cannot be a code 5 and any other code in the file. |
8	Regional Program of Study Reported as a Code 6 or Code 7	A student may be a code 6 (concentrator) or code 7 (completer) in a regional program of study ONLY if the student's latest course completion records are in a CDN that is in an approved geographic region for that program of study.	
9	Regional Program of Study Reported as a Code E	A student shall be reported as a code E (explorer) if the regional program of study calculated indicator is a code 6 (concentrator) or code 7 (completer) and the student's latest course completion records are in a CDN that is NOT in an approved region for the regional program of study.	
10	Student Does Not Need to Pass Courses to Be Coded a 5 or E	A student does not need pass CTE courses in order to be coded a code 5 (participant) or code E (explorer); they only need to complete a CTE course in the look-up table.	
11	Only Service IDs in the "POS Service ID Level Credit" and "Non-POS CTE Service IDs" Look-up	Only the service IDs in the "POS Service ID Level Credit" and "Non-POS CTE Service IDs" Look-up Tables are valid for	The "POS Service ID Level Credit" table contains those service IDs for courses that are in a program of study that lead

ID	Title	Rule	Elaboration
	Tables are Used in CTE Indicator Calculations.	calculating the CTE indicator codes.	to code 6 (concentrator) or code 7 (completer) CTE indicators. The "Non-POS CTE Service IDs" table contains those service IDs that are not in a program of study but are used to calculate code 5 (participant) and code E (explorer) CTE indicators. Since all high-school CTE courses count toward codes 5 and E, these are included as well. The service IDs in the "Non-Indicator Service IDs" table do not count toward any CTE indicator calculation.
12	Single LEA	A student shall only be reported in one single LEA in the same school year.	In the case where a student competed CTE courses in multiple LEAs within the same school year, write the most recently enrolled LEA CDN to all records for the student.
13	Grade Level	A student shall only be reported in a single grade level in the same school year.	Two different LEAs can have different requirements for grade level for a student with the same number of credits in completed courses. Because of this, only write the grade level for the most recent enrollment within the latest school year.

For More Information

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