



CTCLINK STUDENT FTE CALCULATIONS V1.7

Revisions

Change reference	Date	Version
Original Version	6/21/2022	1.0
Added listing of valid values and description regarding the CTC_FTE_EXCEPT filed in the CTC_STDNT_FTE table.	9/15/2022	1.1
Update RFTE description to remove “On Hold” as the new repeat code is now implemented.	11/15/2022	1.2
Updated Contact Hour conversion to credit equivalent to include Class Contact Hours. Changes are highlighted in yellow to indicate they are draft until the enhancement is implemented into production.	1/19/2023	1.3
Added the repeat code RLMT to the repeat coding section. FTE exception value changed from “RFTE_REPEAT” to “REPEAT_NO_FTE”	3/16/2023	1.4
Added FTE exception value “RS_UNIT_MISMATCH”	8/2/2023	1.5
Added CNED related FTE exceptions Updated listing of CTC_FTE_EXCEPT values to reflect order of priority	1/30/2024	1.6
Updated listing of CTC_FTE_EXCEPT values to reflect order of priority to prioritize critical exceptions	8/21/2024	1.7

Contacts

Data Services, dataservices@sbctc.edu

Carmen McKenzie, Director

Tamara Morrill, Senior Report Developer

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Document Overview

This document provides a comprehensive description of the calculation of FTES (Full-Time Equivalent Student) within ctcLink Campus Solutions. It includes details related to the most critical data elements used in the calculation as well as information about data structures and reporting available in ctcLink.

FTES calculations are driven by the [SBCTC Policy Manual](#) which are driven by state and federal regulations. The source data used to calculate FTES is not modified or manipulated by the FTE process or State Board staff.

In order to track enrollments and meet reporting requirements, the State Board Data Services team implements coding mechanisms in ctcLink. Those coding mechanisms are detailed in the [SBCTC Coding Manual](#). Coding errors can and do occur which impact FTES calculations and much effort has been put into providing edit check reports in the [Quality Assurance Reporting System](#) (QARS) to assist colleges in identifying and resolving the issues.

A [snapshot](#) of the enrollment data is taken for the [SBCTC Data Warehouse](#) at the completion of each quarter. At this time, the FTES in ctcLink are frozen and will not be reprocessed in an effort to keep ctcLink data and the SBCTC Data Warehouse in alignment.

System-wide FTES are primarily reported out of the SBCTC Data Warehouse but there are several queries and reports available within ctcLink for enrollment management purposes. These queries and reports are listed in the [Data Services Report Catalog](#) and in [metaLink](#) (the ctcLink metadata repository).

An enhancement to the ctcLink FTES calculation process and table was approved and implemented in August 2022. The enhancement included adding a new field to the FTES table (CTC_STDNT_FTE) to reflect the reason an enrollment is not producing FTES. This new field is helpful when troubleshooting data issues.

FTES Calculation Overview

The formula to calculate quarterly FTES (Full-Time Equivalent Student) at the class level is:

$$\text{FTES} = \text{Census-day Enrollment} \times \text{Credit Equivalent} \div 15 \text{ (the divisor of 15 is constant)}$$

Census-day Enrollment

Census-day Enrollment is used to derive FTES at the class level. FTES can also be calculated at the student level by dividing the sum of credits enrolled by 15, or for annual FTES, divide by 45.

Census-day Enrollment = Number of students enrolled in a class as of the census date of the class

The census date of a class represents the time frame within which students must register and tuition and fees have been paid, waived, or have a payment plan established. Full-time equivalent is generated for any student enrolled as of the census date of the class. This is a critical data element within the FTES calculation.

If the student's enrollment (add) date of the class is after the class census date or the student drops from the class prior to the class census date, the student is not included in the FTES calculations. The Census Date policy is found in the [SBCTC Policy Manual](#) Chapter 5.50.

There are three types of class Census Dates:

- **Regular Session** (Session 1)
 - Regular session classes are classes in which instruction begins within the first five instructional days of a quarter and ends within the last five instructional days of the quarter. All regular session classes share the same census date.
 - The Census Date for regular session classes is the 10th instructional day after the quarter begins.
 - For quarters that run for less than 10 weeks, summer quarter for example, the quarter census date is based on the number of weeks in the quarter. If the quarter is 9 weeks, the census date is the ninth instructional day. If the quarter is 8 weeks, the census date is the eighth instructional day, etc.
- **Dynamic Session** (Session DYN)
 - Dynamic Session classes are those that do not meet within the first five days of the start of the quarter,
 - The Census Date for dynamic session classes is the date in which the class has met for 20% of the instructional days of the class. For example, if a class has 25 instructional days, 20 percent of the instructional days are five. The census date of this class would be the fifth instructional day after the class begins.
- **Open-Entry Session** (Session OEE)
 - Open-Entry classes are continuous enrollment classes permitting students to begin instruction at any time during a quarter.
 - The Census Date is the last instructional day of the class or the last day of the quarter in which the class begins, whichever happens first.
 - For OEE Session classes, the FTES calculation process derives a census date based on SBCTC Policy (see previous bullet) and do not inherit the dynamic dated census date derived by PeopleSoft.

Credit Equivalent

A credit equivalent value is derived for each enrollment in a class and is used to calculate FTES. This is a critical data element within the calculation. The policy related to credit equivalent can be found in the [SBCTC Policy Manual](#) Chapter 5.40.10.

The Credit Equivalent value is derived during the FTES process and cannot be set manually.

- For Credit Bearing classes, **Credit Equivalent** = number of credits enrolled (units taken)
 - FTES are calculated at the enrolled component level.
- For I-BEST enhanced FTE courses, **Credit Equivalent** = number of credits enrolled x 1.75
- For Non-Credit Bearing (0 credit) classes, credit equivalent = class **Contact Hours** / 11

Note: The denominator of 11 in the above calculation is a constant value and should not be adjusted based on the number of weeks in the term. *Always use 11 as the denominator.* This allows for consistent FTES calculations for all colleges.

FTES are calculated for non-enrolled sections of non-credit bearing classes because FTES are based on contact hours that are entered at the component level.

- Class **Contact Hours** are the sum of:
 - Lecture contact hours
Ten to twelve classroom contact hours, including final examinations, generate one credit hour.
 - Lab contact hours divided by 2
Twenty to twenty-four contact hours generate one credit hour.
 - Worksite (clinical) contact hours divided by 3
Thirty to thirty-six instructional hours generate one credit hour
 - Other contact hours divided by 3
Thirty to thirty-six instructional hours generate one credit hour
- As of Winter Quarter 2023, the FTE calculation will first look at the Class table contact hour value and if there is no value available, it will look at the Course Catalog table for contact hours.
- The Quick Reference Guide associated to contact hours and FTE calculations is available here: <https://ctclinkreferencecenter.ctclink.us/m/79430/l/1011390-9-2-adjusting-contact-hours-for-a-class>

Fund Source Enrollment

FTES are typically reported by fund source enrollment category. Each active class during the quarter is required to be assigned a funding source as defined in the [SBCTC Policy Manual](#) Chapter 5.30. The combination of the fund source of the class and the enrollment type of each student equates to a fund source enrollment.

There are four categories of fund source enrollment:

- **State-Funded** (Class Attribute SFND values 1, 2 or 3)
 - State-funded classes are those funded wholly or in part with state funds. Tuition must be charged on all enrollments recorded as state-funded, though some students may qualify for tuition waivers.
 - Students enrolled in state-funded classes are typically recorded as state-funded enrollments except for those considered [State-Funded Exclusions](#), see below for details.
 - An adjustment is made to state-supported FTES calculations when the class is coded as Partially State Funded-Shared (Class Attribute SFND value 3). The FTES are adjusted by the percent of the class that is externally funded. For example, if the class is shared equally between state-supported

and a grant funding source, and the class is coded as 50% Partially State Funded-Shared, the FTES are split between state-funded and contract-funded equally. The percent externally funded is indicated by the Class Attribute SXTF value between 1 and 99.

State-Funded Exclusions

The fund source enrollment reflects the funding source of the class except in the following cases in which the enrollment must not be reported as state-funded but contract-funded due to enrollments rules specified in the SBCTC Policy Manual.

- Running Start students (Student Group SRSR or SRSL)
 - A maximum of 1.4 FTE (high school + college) are covered under the Running Start legislation. Any credits covered under Running Start are counted as contract-funded enrollments. Any credits not covered under the Running Start contract assume the funding source of the class.
- International contract students (Student Group SINC)
 - All FTES generated by International contract students are set to contract-funded during the FTES process.
- Contract High School students (Student Group SHS1, SHS2, SHS3 or SHS4)
 - All FTES generated by Contract High School students are set to contract-funded during the FTES process.
- **Contract-Funded** (Class Attribute SFND value 4)
 - Contract-funded classes are funded solely through grants or through contracts with a separate entity.
 - Includes FTES that qualify as [State-Funded Exclusions](#). The FTES for these students are converted from state to contract-funded during the FTES process.
 - All students enrolled in classes fully funded by grants or contracts are reported as contract enrollments, except for Basic Education for Adults classes (Class CIP in 32* series) funded with federal Workforce Innovation and Opportunity Act (WIOA) funds, these classes are reported as state-funded as noted in the [SBCTC Policy Manual](#) Chapter 5.20.
- **Self-Support** (Class Attribute SFND value 5)
 - Self-support classes are funded solely through fees paid by students enrolled in the class. Students in self-support classes pay a fee in lieu of tuition.
 - All students enrolled in self-support classes are recorded as self-support enrollments.
 - The term “Student-Funded” is synonymous for Self-Support in this context.
- **Non-Reportable** (based on the student’s Waiver or Residency Exception)
 - Students receiving certain tuition waivers and enrolled in classes coded as state-funded do not generate FTES per legislation. These are listed below.

Description	PS Waiver or Residency Exception
Senior Citizens – Audit	W10
Senior Citizens - Credit	W56
State Employees	W51
Unemployed Waiver	W21
Underemployed Waiver	W22
Native American Non-Resident Waiver	SF02

Important Notes

- Some categories of classes are not eligible for official legislative FTES. These include Prior Learning Assessment credits such as CTE Dual Credit and Advanced Placement Testing.
- Most I-BEST course categories generate 175% of the credit equivalent of the course. The courses are those that are team-taught and coded with a Class Attribute SBST values BASICSKILL or DEVELOPMTL. Other than Department of Corrections (DOC) contract-funded enrollments, the enhancement of the FTES is only performed on state-supported enrollments. Non-DOC Contract funded I-BEST FTES should not be enhanced.
- Additional coding guidance for specific program or class areas can be found in the [SBCTC Coding Manual](#).

Duplicate EMPLIDs

Duplicate EMPLIDs are identified by the college who then submits a service desk ticket. The Campus Solutions Support team runs the Change ID process that adds an 'X' to the beginning of the EMPLID to identify it as a duplicate. This EMPLID change is performed in all tables within ctcLink that contain the EMPLID field.

All EMPLIDs that begin with 'X' are excluded from the CTC_STDNT_FTE table during processing and therefore do not generate an FTE. However, the Change ID process will change a student's EMPLID for both current and historical records. The FTE job is not executed on previous quarters in an effort to enforce data integrity with the SBCTC Data Warehouse. You may notice 'X' EMPLIDs in previous quarters carrying FTE values. These reflect duplicate student ID's identified after the quarter's data was processed and snapshotted for the Data Warehouse.

The query QCS_SR_FTES_EXCLUDE_X_EMPLID will assist you in verifying that FTE were not calculated for these duplicate records.

FTES Calculation Exclusions

FTES are primarily reported using the data found in the SBCTC Data Warehouse. The Data Warehouse consists of enrollment data snapshotted at the end of each quarter. The snapshot is taken at the end of the quarter to allow open entry open exit and dynamic dated classes FTES to be included in the overall FTES calculations.

Certain types of enrollments are excluded from FTES calculations. The following section provides more information on each type of exclusion. See the [ctcLink Custom FTE Table](#) section to understand how to identify these exclusions within the CTC_STDNT_FTE table.

Missing Critical Data

Some data elements are required for the SBCTC Data Warehouse, and if missing will be rejected from the FTES calculations and excluded from the Data Warehouse. The exclusion from FTES calculations for missing critical data elements was implemented in ctcLink for summer quarter 2022.

Student or classes missing these critical data elements will be excluded from the Data Warehouse:

- Class missing census date

As explained in the [Census Day Enrollment](#) section, classes must be assigned a census date to determine which students are included in the FTES calculations.

- Non-credit Bearing Classes Missing Contact Hours per the SBCTC Policy Manual 5.40.10

Contact hours are required to calculate the [Credit Equivalency](#) which is used in the FTES calculations. Contact hours are entered on the Class Component and/or the Course Catalog Component. The process will first look at the class and if no value will look at the course catalog.

- Class missing fund source (Class Attribute SFND)

Each active class during the quarter is required to be assigned a funding source as defined in the

[SBCTC Policy Manual](#) Chapter 5.30. The combination of the fund source of the class and the enrollment type of each student equates to a [fund source enrollment](#).

- In addition to the above, the following missing data will also be excluded from FTE calculations due to the impact on reporting:
 - Student missing active plan stack
 - Class missing CIP code

Critical Data Error

- Running Start student unit mismatch (billed units greater than enrolled units)
Units enrolled over the legislative Running Start FTE cap are billed to the student and count as state funded FTS. Billed units should not be greater than the enrolled units. When units billed are greater than enrolled units, FTE calculation errors are created.
- Credit Bearing Classes offered in the Continuing Education (CNED) career per SBCTC Policy Manual 4.90
Credit bearing classes must only be offered in the Undergraduate (UGRD) career so that tuition can be charged and the credits included on a student's transcript. Credit bearing classes can be found where the Course Catalog UNITS_MAXIMUM <> 0. Classes running for credit in the CNED career will not generate FTES and will be excluded from the SBCTC Data Warehouse.
- Non-College Level CNED classes Catalog Number within College Level range per SBCTC Policy Manual 4.10
College level classes are defined in the SBCTC Policy Manual 4.10 Course Coding Procedures and Deadlines as those with a Catalog Number between 100 and 499. Classes offered in the CNED career with Catalog Numbers within the college level range will not generate FTES and will be excluded from the SBCTC Data Warehouse.
- Non-College Level CNED classes configured to accept Grades per SBCTC Policy Manual 4.90
Credit bearing classes must only be offered in the Undergraduate (UGRD) career. Only credit bearing classes receive a decimal grade that factors into a student's GPA. Decimal grades should not be used in the Continuing Education (CNED) career. Grades of Pass/Fail or Satisfactory/Unsatisfactory are allowable in the CNED career.

Other FTE Calculation Exclusions

Some enrollments do not generate FTES per policy or legislation:

- Enrollment after the class census date
As explained in the [Census Day Enrollment](#) section, students must be enrolled as of the census date of the class to generate FTES.
- Class designated as non-FTE generating (Class Attribute SNFG)
Classes may be excluded from FTES calculations thru the use of the Class Attribute SNFG (Non-FTE Generating). Enrollments in classes coded with the Class Attribute SNFG are excluded from the CTC_STDNT_FTE table.
- Enrollments that are over the Repeat Limit per the SBCTC Policy Manual 5.30.25
Students cannot be reported for courses funded with state dollars if enrolled more than three times for the same course – this is defined as two repeats in addition to the original enrollment. If the enrollment is allowed, a Repeat Code of RFTE or RMLT should be applied to the student's enrollment record. Enrollments with the Repeat Code of RFTE or RMLT will be excluded from FTES calculations.
- Non-Reportable Tuition Waivers
Certain tuition waivers do not allow the generation of state funded FTES. See the [Non-Reportable](#) section of this document for more details.

ctcLink Custom FTE Table

In ctcLink, the primary FTE table is entitled CTC_STDNT_FTE and consists of each student and class applicable for FTES. This table includes each data element used in the calculation of quarterly FTES.

- Includes all enrolled students (STDNT_ENRL_STATUS = 'E') as of the census date of the class
- Students who drop the class before the census date are excluded from this table as they would have a STDNT_ENRL_STATUS = 'D'
- Students who drop the class after the class census date are included because they remain as STDNT_ENRL_STATUS = 'E' with a reason of 'Drop'.
- Grades and grading basis coding have no impact on the FTE process

This table includes each data element that is needed to calculate FTES so that the calculation can be as transparent as possible.

The CTC_STDNT_FTE table is updated by a custom ctcLink job that runs nightly, except for nights where there is a system outage.

The CTC_STDNT_FTE table records for the current quarter are deleted and the data is reprocessed each time the job runs. This means students who were previously registered for a class, but dropped the class before the census date will be removed from the table. The table only contains the records applicable to generate FTES.

The CTC_STDNT_FTE job is stopped and the data is frozen on the day that the final snapshot for the quarter is made. This allows for integrity between this table and the FTES in the Data Warehouse.

A new field named CTC_FTE_EXCEPT was added to the CTC_STDNT_FTE table in September 2022 and describes why the enrollment did not generate FTES. Below is a listing (in priority order) of the valid values as well as an associated query to identify the enrollments not generating FTES. More information related to these exceptions is available in the [FTES Calculation Exception](#) section of this document.

CTC_FTE_EXCEPT Values	Description	Supporting Query Name	Record Excluded from the Data Warehouse
MISSING_PLAN_STACK	Missing or inactive plan stack; the student is enrolled in one or more classes but does not have an associated term activated plan stack.	QCS_SR_FTES_EXCEPT_PLAN_STACK	Yes
MISSING_SFND_ATTR	Missing Fund Source Course Attribute (SFND) value on the class.	QCS_SR_FTES_EXCEPT_SFND_ATTR	Yes
MISSING_CIP_CODE	Missing CIP Code on the class.	QCS_SR_FTES_EXCEPT_CIP_CODE	Yes
RS_UNIT_MISMATCH	Running Start enrollment records where the units billed under the RS contact plus the units billed to the student do not equal the units enrolled. This is caused by data entry errors. Due to this mismatch, FTES cannot be calculated accurately.	QCS_SR_FTES_EXCEPT_RS_SPLT_UNT	Yes

CTC_FTE_EXCEPT Values	Description	Supporting Query Name	Record Excluded from the Data Warehouse
MISSING_CONTACT_HOURS	Missing Contact Hours for non-credit bearing classes. Contact hours are required to calculate a credit equivalency for classes that do not award credits.	QCS_SR_FTES_EXCEPT_CONTACT_HRS	Yes
MISSING_CENSUS_DATE	No Census Date associated to the class. Without a census date, we do not know which students are enrolled as of the class census date.	QCS_SR_FTES_EXCEPT_CENSUS_ENRL	Yes
CNED_CREDIT_BEARING	Will set FTES to 0 if the class is run in the CNED career and carries credits.	QCS_SR_FTES_EXCEPT_CNED	Yes
CNED_GRD_BASIS_NON	Will set FTES to 0 if the class is offered in the CNED career and the Grading Basis = NON (non-graded component of graded class). This Grading Basis is not applicable in CNED	QCS_SR_FTES_EXCEPT_CNED	Yes
CNED_GRD_BASIS_GRD	Will set FTES to 0 if the class is offered in the CNED career and the Grading Basis = GRD (graded class). This Grading Basis is not applicable in CNED	QCS_SR_FTES_EXCEPT_CNED	Yes
CNED_CAT_NBR_100_499	Will set FTES to 0 if the class is offered in the CNED career and the Catalog Number is between 100 and 499.	QCS_SR_FTES_EXCEPT_CNED	Yes
ENRL_AFTER_CENSUS	The student's Enrollment Add Date occurs after the Census Date of the Class. FTES are only calculated for students who are enrolled as of the class census date.	QCS_SR_FTES_EXCEPT_CENSUS_ENRL	No
REPEAT_NO_FTE	Will set all FTES to 0 if the student's enrollment in the class is above the three-repeat limit.	QCS_SR_FTES_EXCEPT_REPEATS	No
NON_MIS_WVR_###	The student received a Non-MIS Reportable tuition waiver. Per policy and legislation, these enrollments cannot generate state funded FTES. (### represents the waiver number)	QCS_SR_FTES_EXCEPT_NON_MIS_WVR	No
OTHER_ENROLL_NON	Mismatch between the class type (Class Type = Enroll) and grading basis (Grading Basis = NON for Non-Enroll section).	QCS_SR_FTES_EXCEPT_OTH_ENRL_NON	No

CTC_FTE_EXCEPT Values	Description	Supporting Query Name	Record Excluded from the Data Warehouse
OTHER_ENROLL_UNIT_0	Mismatch between the grading basis (Grading Basis <> NON) but the Units at Course, Class and Enrollment are set to 0.	QCS_SR_FTES_EXCEPT_OTH_UNITS_0	No
OTHER_EXCEPTION	All other FTE = 0 where the reason has not previously been identified. Data Services will monitor these and add additional exception codes where applicable.	QCS_SR_FTES_EXCEPT_OTHER	No

ctcLink Custom FTE Summary Table

An FTES summary table is also populated by the nightly ctcLink FTE job entitled CTC_FTES_SUMMARY. This table contains the aggregated FTES and Headcount information by Registration Count day. This table allows for the comparison between quarters as of the day count of open registration instead of by date.

The source of this table is the CTC_STDNT_FTE table and is the aggregation of the data by registration day count and funding source.



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Washington State Board for Community and Technical Colleges