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**FOR DISCUSSION PURPOSES ONLY**

# ***OHIO DEPARTMENT OF HIGHER EDUCATION***

## ***STATE SHARE OF INSTRUCTION HANDBOOK:***

***PROVIDING THE METHODOLOGY FOR ALLOCATING  
STATE SHARE OF INSTRUCTION FUNDS  
FOR FISCAL YEAR 2018 AND FISCAL YEAR 2019***

***FOR USE BY:***

***COMMUNITY AND TECHNICAL COLLEGES***

**LAST REVISED: June 2017**

# **Methodology For Allocating State Share of Instruction Fiscal Year 2018 & Fiscal Year 2019**

## Introduction

The purpose of this document is to provide detailed information regarding the allocation of the State Share of Instruction (SSI). Fiscal Years (FY) 2018 and 2019 continue the process of using different formulas for (a) University Regional & Main Campuses, and (b) Community and Technical Colleges.

As a result, there are two separate handbooks detailing the methodology to be used for allocating State Share of Instruction funds to each sector. ***This version is designed to provide the allocation methodology for Community and Technical Colleges. Please be careful to ensure that you are using the appropriate document.***

### **I. COMMUNITY AND TECHNICAL COLLEGE FUNDING METHODOLOGY OVERVIEW**

The Community and Technical College funding model for FYs 2018 & 2019 has changed only slightly from the FY 2017 model. The SSI model consists of three components: (1) a course completion (or completed FTE (full-time equivalent)) component, (2) a success points component, and (3) a completion milestones component.

The following provides a summary of the SSI funding components for the community college sector:

- 50% of the SSI funding shall be allocated based on student success as measured by course completions (aka completed FTE) as detailed below. This component is cost based and does include access weights.
- 25% of the SSI funding shall be allocated based on student success as measured by the success points as detailed below.
- 25% of the SSI funding shall be allocated based on student success as measured by the completion metrics as detailed below. This component is cost based and does include access weights.

### **II. DETERMINING THE COST OF COURSES AND DEGREES**

Both the Course completions and the Completions components of the formula have a cost basis. The steps used to calculate the model costs for courses and degrees are described below.

## **Step One: Collect Resource Analysis Cost for Each Subsidy Model**

### **Collect Resource Analysis Data to Develop the Statewide Average Model Cost for Each Subsidy Model**

The Department of Higher Education collects cost and enrollment data from each of the campuses (all sectors). These data include a course level and subject code for each course which are used in combination to categorize courses into subsidy models based on cost and content. The cost and enrollment data are used to determine the average cost per FTE for each Subsidy Model for the most recent 3 years available prior to running the SSI formula for the first year of the target biennium. In determining the average cost for the Fiscal Year 2018 and FY 2019 biennium, the calculation is based on data for Fiscal Years 2013, 2014, and 2015. The cost allocation is done in the Resource Analysis process described on the web at <http://regents.ohio.gov/hei/RA/RAspecifications.html>.

### **Normalize each year's cost by inflating the costs**

Above, an average cost for instruction for each model was calculated using three years (Fiscal Years 2013, 2014, and 2015) of costs from Resource Analysis. In order to make these costs comparable, it is necessary to inflate each of the prior years of Resource Analysis cost data to reflect Fiscal Year 2015 costs (the last year of actual data) using the Higher Education Cost Index (HECA).

The statewide average costs for each model for the biennium are located in the **SSI spreadsheet** in the tab called *Model Cost (courses)*.

### **Add Higher Education Funding Commission Priority Weightings for Science, Technology, Engineering, Mathematics, Medicine, and Graduate Courses by model**

The Higher Education Funding Commission endorsed a priority weighting for STEM<sup>2</sup> and graduate models.

The STEM<sup>2</sup> weighting was calculated in a manner that held STEM<sup>2</sup> and Medical models harmless relative to the amount of state support the same instruction earned in the previous SSI formula, using FY 2007 as the base year. In cases where this addition is negative, it is set to zero (i.e. it never reduces the SSI of a model).

The graduate weights (used by University Main and Regional campuses) were implemented to ensure that the relative amount of state support for graduate and undergraduate activity under the new funding model remains comparable to the earnings that utilized the enrollment model, using FY 2009 as the base year.

The STEM<sup>2</sup> and graduate model priority weightings are multiplied by the respective model cost for each of the 26 models. *The resulting calculation is called the **Model Reimbursement Cost*** and can be viewed in the **SSI spreadsheet** in the tab called *Model Cost (courses)*.

**Note:** The original plan was to gradually phase out the priority weightings for the STEM<sup>2</sup> models, with the exception of the Medical 2 model, as the Resource Analysis average cost calculations for the models begin to reflect this additional SSI funding. No adjustments have been made.

## Determine the Statewide Average Degree Costs

The cost of each degree is calculated using the statewide average cost of the SSI model for each course taken, adjusted, weighted, and inflated to the appropriate year as above. The costs of all courses taken at any USO campus, through the year and term the degree is awarded, by students who met the following criteria are included in these calculations.

For FY 2018-FY 2019 degree costs, a query of HEI data is used to select degrees earned in FY 2013, FY 2014 or FY 2015 for which there is evidence that all instruction for the degree was earned on a University System of Ohio (USO) campus. (Note: A student’s coursework needs to be completed within the time frame of the HEI system's existence (i.e. FY 1999 and later), to be included in the calculation.) In other words, we compare the credit hours earned of each degree recipient to the minimum credits required for the degree at each institution (as reported in the Academic Program file in HEI) to determine whether that degree should be included in the calculation of degree costs. Barring a few special exceptions, undergraduate enrollments do not count for graduate degrees and vice versa. Also, for graduate degrees, the course must be taken at the degree granting institution.

Once the cost of all degrees earned in a given subject and level is calculated then the degrees are aggregated as shown below. A statewide average degree cost is then calculated for each level of the aggregation.

The statewide average degree cost is calculated by level. Different levels have different aggregation categories. Associate degrees are grouped into the various technical areas, plus Liberal Arts as follows:

**Technology Areas for Associate Degrees**

<b>Technology Areas</b>	<b>Discipline Areas</b>	<b>Subject Fields</b>
Business Technologies	Business	
Engineering Technologies	Engineering	
Health Technologies	Health	
Public Service Technologies		Public Administration and Services
		Protective Services
Agriculture Technologies		Agriculture
Natural Science Technologies	Natural Science and Math	Exclude Agriculture
Liberal Arts	Arts & Humanities	
	Education	
	Social and Behavioral Sciences	Exclude Public Administration and Services
Other	Unclassified	Exclude Protective Services

Bachelor’s, master’s and professional degrees are grouped by Subject Field (based on the CIP code as reported in the DC file).

Doctoral degrees are grouped by Discipline Area (which is broader than Subject Field), because there are too few degrees in some Subject Fields.

The category into which a degree falls is determined by the level and the subject code (or CIP code) under which it is reported by the institution in the Degrees and Certificates Awarded (DC) file.

The costs (sum of costs of courses taken) of all degrees earned in the given technology area, subject field, or discipline (as appropriate given the degree level) are averaged to determine the statewide average cost for all degrees fall into that category. These degree costs can be viewed in the **SSI spreadsheet** in the tab called *completions model costs*.

## II. THE COURSE COMPLETION COMPONENT OF THE FORMULA

Below are the steps used to calculate the course completions component of the funding distribution formula:

### **Collect Subsidy Eligible Completed FTEs and access completed FTEs and calculate the 3-year averages:**

To add stability and predictability to the SSI allocations, all allocations are based on FTE's that are lagged one-year. Therefore, the Ohio Department of Higher Education will provide a summary of the subsidy course completions (completed FTE) by Subject and Level for the 3-years ending in the year preceding the year for which SSI is being calculated. The source for the FTE data comes from the HEI system and can be viewed in the **SSI spreadsheet** in the tab called '*subject level FTE*'.

A subsidy FTE is defined as 30 semester credit hours or 45 quarter credit hours. Please note that high school students and credits earned at the college while students are in high school are included in the formula unless the course or the student is marked ineligible for one of the reasons shown here:

<https://www.ohiohighered.org/node/1872>

Three-year averages of subsidy eligible completed FTE and access subsidy eligible completed FTE counts are generated for each Institution/ Subject Field/ Level of Instruction combination. For Fiscal Year 2018 SSI, the FTE data from fiscal years 2017, 2016, and 2015 are used in these calculations. For Fiscal Year 2019 SSI, the FTE data are from fiscal years 2018, 2017, and 2016 are used in these calculations.

The completed FTEs, access FTEs, and resulting average calculations can be viewed in **the SSI spreadsheet** in the tab called '*Subject-Level FTE*'. The first two years are actual FTEs and the latest year's FTEs are projected until actual data are available. The model using projected data is used for the first 6 months' payments and the model with all actual data is used for the second six months' payment and should be available in the late fall of the fiscal year (so, for example, actual data for the FY 2018 distributions should be available in late Fall of 2017).

### **Define and Weight the access completed FTE:**

Students are considered access students for course completions if they have any of the following characteristics:

- **Age:** The student was 25 or over when they began at this college. This calculation uses the difference between the year first enrolled and year of birth as full birth dates are not available for all students;
- **Financial:** The student was Pell eligible at any time during their enrollment at a USO college or university. This information is based on FAFSA data;
- **Race:** If the student was reported as African American, American Indian, or Hispanic from the Student Entrance (SE) table;
- **Academic Preparation:** The student was enrolled for the first time in a community college in Fall 2013 or after and was reported as underprepared for Mathematics, as defined by the remediation free standards. A description of the process to determine the remediation free standards, as well as the assessments and thresholds established, is available here: <https://www.ohiohighered.org/college-readiness>. For FY 2018/19 SSI, this factor is based only on academic preparation in math. The OACC funding committee will continue to meet to determine how and when to include academic preparation in English.

Any FTE completed by an access student is considered an access FTE and is included in the access FTE add-on as described below.

Access Students are given additional weighted FTEs using an access weight that recognizes the difference in course completion rates for access students compared to the course completion rates for non-access students. For course completions, a student is considered an access student if they have one or more of the access factors described above, and non-access if they have none of the factors. There is no distinction based on the number of factors or which factors a student might have. This weight is sector wide and for FYs 2018 & 2019, this weight = 15%. An FTE completed by an access student will count as 1.15 FTE.

This is calculated in the *'Subject-Level FTE' tab* in the **SSI spreadsheet**.

### **Calculate the Course Completions SSI by Campus, Subject Field, and Level of Instruction:**

The percentage of the SSI appropriation that is allocated to course completions (shown in section I above and equal to 50% of the sector appropriation for FYs 2018 & 2019) is prorated to each combination of institution, subject, and level. First the 3-year average completed FTE for each combination is multiplied by the appropriate model cost (calculated as described above) to determine the reimbursement cost for each combination. Then these reimbursement costs are summed to calculate a total reimbursement cost for the sector. Then this is done for the access add-on FTE. The ratio of the reimbursement cost calculated for each institution, subject, and level to the total reimbursement cost for the sector is multiplied by the course completion allocation to determine the SSI distributed for that institution/subject/level combination. The sector total used for the ratio is the sum of the reimbursement costs for completed FTE and for the access add-on FTE.

This calculation can be seen in the **SSI spreadsheet** in the *'subject level FTE' tab*. The appropriation being prorated and the total reimbursement cost for the sector are seen at the bottom of the columns.

The **'CC Summary'** tab sums the course completions SSI distributions by institution to show the total amount each institution earned from course completions.

### III. SUCCESS POINTS COMPONENT OF THE FORMULA

**Success Points** are used to allocate funding associated with student success as measured by credit accumulation and DEV completion. Success points are intended to measure the significant steps that students take toward higher education achievement. Please note that high school students and credits earned at the college while students are in high school are included in this section.

1. The credit accumulation success points each award a point to the institution for each student who reaches or exceeds the given credit threshold.
  - a. Only college level (non-Developmental) credits are included.
  - b. Only credits earned at the given institution are included.
  - c. The credit thresholds are:
    - i. 12 semester credit hours;
    - ii. 24 semester credit hours; and
    - iii. 36 semester credit hours.
  - d. The only time limit on these credits is the age of the HEI system. For example, the student could have earned one credit per year until they reached 12 credits in 2016 and the institution would get the point in 2016.
  - e. A student can earn up to 3 credit accumulation points (one for each threshold) for a given institution.
  - f. A student can earn each of these only once per institution.
  - g. A student can earn each of these for multiple institutions.

The credit hour based success points are determined by calculating the total cumulative number of college level credits earned as of the end of given year and the total cumulative college credits earned prior to the given year. If the total including the given year is greater than or equal to the threshold (12, 24, or 36) and the total prior to the given year was less than the threshold, then a success point is earned.

2. The Developmental (DEV) completion success points for Math and English count students who complete a DEV class in Math or English who then, within that year or the next, enroll in a college level course in the same subject area.
  - a. The number of students who successfully completed a developmental Math course in the prior year and who subsequently enroll in a college level Math course (at any Ohio public college or university) either later that year or in the current year.
  - b. Number of students who successfully completed a developmental English course in the prior year and who subsequently enroll in a college level English course (at any Ohio public college or university) either later that year or in the current year.

The DEV completion success points are determined by starting with all students who completed (as reported in the course enrollment (CN) file) a course with level = V (as reported in the course inventory (CI) file) and a subject code (as reported in the CI file) that falls into the Math or English discipline in the year prior to the given year. These students are tracked to see if they enrolled in a math or English college level (level not = V) course either in that same term, or any later term that year, or any term in

the given year. If the DEV course is math, the college level course must also be math, and similarly for English.

The three-year average of each of these Success Point counts are used to calculate each Community and Technical College's share of the student success point funding. For each fiscal year, the most recent three year lagged average is used.

This calculation can be seen in the **SSI spreadsheet** in the 'Success Points' tab. The 'CC Summary' tab shows the success points SSI distributions by institution.

#### **IV. Completion Milestones Component of the Formula**

The completion milestones component of the formula includes associate degrees, long-term certificates ( $\geq 30$  semester credit hours), and transfers to 4-year institutions. Please note that high school students and credits or awards earned at the college while students are in high school are included in this section. All associate degrees and long-term certificates are eligible for inclusion in the formula.

Transfers to any 4-year institution (within or outside the USO) are now eligible to be included in the formula if the student earned at least 12 hours at the college prior to transfer.

#### **Determine the Number of Degrees and Certificates Earned and the Number of Students Eligible to be Considered a Transfer at Each College:**

To get the counts for degrees and certificates, first all degrees and long term certificates earned in the given 3 years are counted. Long term certificates are those reported as level 02 in the DC file. If there is a prior award at the same level since FY 2010, that degree or certificate is multiplied by 0.5. If two or more awards at the same level are earned in the same term, the highest cost one is counted as 1 and any others are counted as 0.5.

An institution gets credit for a transfer if a student enrolls for the first time in a 4-year college or university in the given year and has (before or during the given year) earned at least 12 college level credits at the institution. Starting in FY 2015, National Student Clearinghouse (NSC) data were used to obtain information on transfers to schools outside the USO. This includes in-state private schools, for-profit schools, and out of state schools.

First, data on students who are enrolled for the first time at a 4-year college or university in the given year are collected. For Ohio public institutions this includes all main and regional campuses of the universities. For the out-of-system schools, this includes any school reported as 4 year by NSC. Then these students' records are examined to see if they earned at least 12 college level credits at one or more community colleges either in the same year they first enrolled at the 4-year institution or in prior years. If so then that college gets credit for a transfer. A student can count as a transfer at multiple community colleges.



## **Determine which Completions at each college are eligible for access funding:**

Access degrees, certificates, and transfers are defined as those from above that were earned by students with any of the access characteristics (Age, Financial, Race, and/or Academic Preparation) which are defined/described above in the course completions section.

For the completion milestones component, a student can be in one access category, two categories, three categories, or all four categories. The completions are classified based on how many access categories the given student falls into. Access completions and which access level they go into are identified in the selection of degrees, certificates, and transfers. The access weights for Completions were determined based on comparing the likelihood of students in each access level completing compared to that of non-access students.

Completions counts are shown in 5 groupings: overall counts, counts of those earned by students in one access category, those with two access categories, those with three access categories, and those with all four access categories. The counts in the access groupings are subsets of the overall counts and are used to calculate the add-ons in the formula. The Access add-on is calculated as follows: the number of completers with one access factor \* 25% + the number of completers with 2 access categories \* 66% + the number of completers with 3 access factors \* 150% + the number of completers with 4 access factors \* 200%.

The resulting degree and certificate counts are in the **SSI spreadsheet** in the *tab called Completions*.

## **Calculate the Completion costs and Access Completion costs for each College and Prorate the SSI Based on these Weighted Costs:**

The degree costs are calculated as shown above. For the certificates earned, the cost is  $\frac{1}{2}$  of the cost of a degree in the same technology area. The cost of transfers is  $\frac{1}{4}$  of the total average degree costs for all degrees earned in the years used to calculate degree costs. These completion costs can be viewed in the **SSI spreadsheet** in the *tab called completions model costs*.

The appropriation for completions is prorated to each combination of institution, technology area, and level (degree, certificate, or transfer) by the ratio of cost of the completions in that combination to the total sector completions costs. The sector total used for the ratio is the sum of the costs for completions overall and the costs of access completions.

The results of the calculation of SSI for Completions are in the **SSI spreadsheet in the completions tab**.

The **'CC Summary' tab in the SSI spreadsheet** sums the SSI distributions by institution to show the total amount each institution earned from the Completions Component.

## **V. Apply the Capital Deduction for Each Institution (as applicable) Prior to Distributing the State Share of Instruction Allocation**

This step of the calculation reduces the State Share of Instruction allocation for institutions that have negative adjustments that are the result of the implementation of the Regents' incentive-based capital

funding policy. As part of this policy, campuses with debt service costs (for qualifying capital projects) that exceed their formula-determined capital allocation have that difference deducted from their State Share of Instruction allocation. Under the prior agreement and included in the budget bill, funds from this capital deduction are to be transferred to the Capital Component line item. This transfer allows the Capital Component to be fully funded. This is not shown in the SSI spreadsheet, but does affect the actual distributions.