Participate | Collaborate | Innovate
Calculating and Understanding FTES & Productivity
June 1, 2018
IEPI SEM Academy
OVERVIEW
Calculating and Understanding FTES and Productivity

- Resource Guide included in SEM ASK set of resources
- Created as a result of system-wide survey.
- This session will actually highlight several Resource Guides focused on California Community College Funding
  - Calculating and Understanding FTES and Productivity
  - Understanding CCC Budgeting and Reporting (Parts 1 and 2)
- Guide were built around a primer: The Basics of Community College Funding
CALCULATING FTES
Q: How is Apportionment Revenue allocated?

A: On the basis of Full-time Equivalent Students (FTES) in attendance, as reported to the Chancellor’s Office on the CCFS-320 Report three times each year.
Full-Time Equivalent Student

1 FTES =

1 student
15 hours per week
2 semesters of 17.5 weeks
(3 quarters of 11.67 weeks)
= 525 contact hours
Sources of Authority

California Legislature

*Education Code*

Board of Governors of the California Community Colleges

*Title 5 of the California Code of Regulations*
FTES Calculation

- Clock Hour
- Class Hour
- Passing time/break
- Partial class hour
- Multiple hour class
Clock Hour

A 60-minute time frame that may begin at any time.

Examples: 0800 to 0900
           0810 to 0910
           0820 to 0920
Class Hour

- A period of not less than 50 minutes of scheduled instruction or examination
- There can be only one “class hour” in each “clock hour,” except as provided for multiple hour classes.
Class Hour

- A “class hour” is commonly called a “contact hour” or “Student Contact Hour.”
Passing Time/Break

- Each clock hour is composed of one class hour segment and a segment referred to as “passing time” or a “break.”
- No additional attendance may be claimed for the 10-minute segment, except for multiple-hour classes.
A multiple hour class is defined as a class scheduled for more than one clock hour.

The fractional part of a class hour at the end of a multiple hour class is called a **partial class hour**.
Multiple Hour Class

- Each 50 minutes exclusive of breaks is a class hour.
- A partial class hour beyond the last full clock hour is counted from the 51st minute of the last full clock hour.
Multiple Hour Class

- No break is allowed in the last full clock hour or the partial class hour.
- The divisor for the partial class hour is 50.
Multiple Hour Class

- Example: 7:00 p.m. to 10:05 p.m.

  PCH: 9:51 – 10:05 = 15 min.

  15/50 = 0.3

  Total Contact Hours: 3.3
### Calculate the contact hours:

<table>
<thead>
<tr>
<th>Class meets from</th>
<th>Contact hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>0900 to 0950</td>
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</tr>
<tr>
<td>0900 to 1000</td>
<td>1.0</td>
</tr>
<tr>
<td>0900 to 1005</td>
<td>1.3</td>
</tr>
<tr>
<td>0900 to 1050</td>
<td>2.0</td>
</tr>
<tr>
<td>0900 to 1100</td>
<td>2.0</td>
</tr>
<tr>
<td>0900 to 1105</td>
<td>2.3</td>
</tr>
<tr>
<td>0900 to 1130</td>
<td>2.8</td>
</tr>
</tbody>
</table>
Attendance Accounting Methods

- Weekly Student Contact Hour
- Daily Student Contact Hour
- Actual Hours of Attendance (Positive Attendance)
- Alternative Attendance Accounting Method (Independent Study/Work Experience)
- Noncredit Distance Education
Weekly Student Contact Hour

- Primary terms only
- Course coterminous with primary term
- Must meet regularly every week of the term
- Same number of contact hours each week including TBA hours
- No deductions for holidays
Census Week

- The week nearest to 20% of the number of weeks in the primary term
- Census date is Monday of census week
- If that Monday is a holiday, census date is the following day
Term Length Multiplier

- Number of weeks in primary term with at least three days of instruction and/or examination
- The term length multiplier for each college is set by the CCC Chancellor’s Office based on the college’s academic calendar
- Maximum TLM: 17.5 for semesters
  11.67 for quarters
FTES Calculation (WSCH)

- Multiply Census Week WSCH by the TLM and divide by 525

\[
FTES = \frac{(CWSCH \times TLM)}{525}
\]

*Example:* Class meets 3 hours/week
30 students enrolled on Census Day
TLM = 17.5

\[
FTES = \frac{(3 \times 30 \times 17.5)}{525} = 3.00
\]
Daily Student Contact Hour

- Course meets five or more days
- Meets the same number of hours on each scheduled day, including any TBA hours
- NOT coterminous with primary term
- No hours counted for holidays
Census Day

- The **day of the class meeting** that is nearest 20% of the number of days the course is scheduled to meet
- When the census day falls on the first day the class meets, census is taken on the second day.
Course Length Multiplier

- Number of days the course is scheduled to meet (CLM)
FTES Calculation (DSCH)

- Multiply Census Day DSCH by the Course Length Multiplier and divide by 525

\[ \text{FTES} = \frac{(\text{CDSCH} \times \text{CLM})}{525} \]

*Example:* Course meets 2 hours per day
30 students enrolled on Census Day
Course meets on 24 days

\[ \text{FTES} = \frac{(2 \times 30 \times 24)}{525} = 2.74 \]
Positive Attendance

- Based on actual count of enrolled students *present* at each class meeting
- Courses meeting fewer than five days
- Courses irregularly scheduled with respect to the number of days per week or the number of hours on scheduled days
- All noncredit courses
FTES Calculation (PA)

- Divide total hours of *actual* attendance by 525

FTES = PAH / 525
Maximizing FTES for Traditional (Face-to-Face) Classes

Best: Weekly Census
Second Best: Daily Census
Worst: Positive Attendance
Alternative Attendance Accounting Method
(Independent Study/Work Experience)

- WSCH method for courses coterminous with primary term
- DSCH method for all other courses
Alternative Attendance Accounting Method
(Independent Study/Work Experience)

- One weekly student contact hours is counted for each **unit** of credit for which the student is enrolled as of the census date or day.
- Lab hours, when appropriate, can be added to the contact hours derived from units of credit.
Until 2002, all distance education courses had to be assigned to the Independent Study/Work Experience attendance accounting method.

Current regulations allow any appropriate accounting method to be used for distance education courses.
Distance Education (Credit)

- Multiply number of students enrolled as of census by the number of “weekly contact hours”; multiply by the Term Length Multiplier; divide by 525.

$$\text{FTES} = (\# \text{ Students} \times \text{“WCH”} \times \text{TLM}) / 525$$
Full-Time Equivalent Student (FTES) Reporting Periods

First Period:    July 1 – December 31
Second Period:  January 1 – April 15
Third Period:   April 16 – June 30

Reports due:    January 15
                April 20
                July 15
When to Report a Section

- Attendance for weekly and daily census sections is reported in the period in which the census date falls.
- Attendance for positive attendance sections is reported in the period in which the last class meeting occurs.
When to Report a Section

- **Summer Shift Exception**: Attendance for daily census sections with census date before July 1 and ending date after July 1 may be reported in either fiscal year.
Frequently Observed Errors

- Hybrid courses inappropriately assigned to the Weekly Census or Daily Census method
- Daily Census courses with “weekly” lab hours
- Summer courses assigned to Weekly Census
- Summer courses reported in the wrong year, or reported in both years
- **Catalog** hours reported rather than **Schedule** hours
- TBA hours irregularities
Background and Drivers

UNDERSTANDING CCC BUDGET AND REPORTING: STUDENT ATTENDANCE
Funding Models

• Current Funding Model
  – Full Time Equivalent Students (FTES)

• Proposed Funding Model
  – FTES (Base Allocation)
  – Student Economic Need (Supplemental Allocation)
  – Performance (Student Success Incentive Allocation)
Current Funding Model

• Unrestricted General Fund – SB 361
  – Workload Drivers
    • Credit Full Time Equivalent Students (FTES)
    • Non-Credit FTES
    • Enhanced Non-Credit (Career Development and College Preparation – CDCP) FTES
  – 1 FTES = Equivalent of 525 hours of student instruction
TCR is considered a funded ceiling. To the extent property taxes and/or student fees come in higher than budgeted this reduces State General Apportionment.
Using Funding Model to Derive Budget
Understanding the 320 Report

• 8 Sections that summarize the enrollment (FTES) over the academic/fiscal year
• Reflection of students served but also how the schedule of classes are development
• 4 submissions
  • Period 1 (January 15\textsuperscript{th})
  • Period 2 (April 20\textsuperscript{th})
  • Period 3 (July 15\textsuperscript{th})
  • Recalculation (November 1\textsuperscript{st})
• District/colleges required to follow Student Attendance Accounting Manual
Alignment of Funding Model with 320 Report and Budget

- **4/1**: P2 submitted for previous fiscal year
- **7/1**: New fiscal year
- **1/15**: P1 Due
- **4/20**: P2 Due
- **7/15**: P3 Due
- **6/30**: Fiscal year end
- **11/1**: Recalc Due
- **2/1**: Recalculation Apportionment Exhibit E

**7/1-31**: Monthly apportionment payments based upon prior year P2 – Advanced Apportionment, Exhibit C

**6/1-6/30**: New monthly apportionment based upon P2 – Second Principal Apportionment, Exhibit C

**2/1-5/31**: New monthly apportionment based upon P1 – First Principal Apportionment, Exhibit C
Types of FTES

- **Weekly Student Contact Hours (WSCH)** - Scheduled coterminously with the primary term and enrollment/FTES is determined based upon its “measurement date,” a snapshot in time as of census week (Monday or Tuesday). Census week is the week nearest to one-fifth of the number of weeks scheduled in the primary term.

- **Daily Student Contact Hours (DSCH)** - Scheduled coterminously with the primary term and regularly meet five or more times for the same number of hours each meeting (e.g. short-term or intersession courses). Census day – “measurement date,” used to calculate FTES – taken on the scheduled meeting that is the nearest one-fifth of the number of days for which each course is scheduled to meet.
# FTES Exercise

<table>
<thead>
<tr>
<th>Course</th>
<th>Load</th>
<th>Hours per week</th>
<th>Approx. Cost</th>
<th>Class Max</th>
<th>FTES Max</th>
<th>Max Product (FTES/FTEF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hum 12</td>
<td>0.20</td>
<td>3</td>
<td>$6000</td>
<td>31</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Bio 9</td>
<td>0.37</td>
<td>6</td>
<td>$11,100</td>
<td>36</td>
<td>?</td>
<td>?</td>
</tr>
<tr>
<td>Psyc 1</td>
<td>0.20</td>
<td>3</td>
<td>$6000</td>
<td>45</td>
<td>?</td>
<td>?</td>
</tr>
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## FTES Exercise (Cont.)

<table>
<thead>
<tr>
<th>Course</th>
<th>Load</th>
<th>Hours per week</th>
<th>Approx. Cost</th>
<th>Class Max</th>
<th>FTES Max</th>
<th>Max Product (FTES/FTEF)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hum 12</td>
<td>0.20</td>
<td>3</td>
<td>$6000</td>
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<td>3.1</td>
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<tr>
<td>Bio 9</td>
<td>0.37</td>
<td>6</td>
<td>$11,100</td>
<td>36</td>
<td>7.2</td>
<td>19.5</td>
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<tr>
<td>Psyc 1</td>
<td>0.20</td>
<td>3</td>
<td>$6000</td>
<td>45</td>
<td>4.5</td>
<td>22.5</td>
</tr>
</tbody>
</table>
Types of FTES (Cont.)

• **Actual (Positive) Hours of Attendance** - Actual count of students in attendance at each meeting. Courses scheduled to meet fewer than five times, are irregularly scheduled with respect to meeting days and times, are open entry/open exit, or in-service training courses. No census date exists for these courses.

• **Alternative Attendance Accounting Procedures (Weekly & Daily)** - Distance Education courses not computed using other attendance accounting procedures (including courses offered in hybrid form, meaning some combination of face-to-face instruction and online instruction) and Independent Study and Cooperative Work Experience-courses scheduled coterminously with the primary term.

• **Alternative Non-credit Attendance Accounting Procedure** - Courses meeting the definition of being a non-credit and a distance education course, for which the student contact hours are not computed using any other attendance accounting method
Annualizers - are a “multiplier” applied to the contact hours, being reported at P1 or at P2, to project/estimate the annual enrollments for the academic/fiscal year.

**Term Length Multipliers** - Determined for each primary term by counting each week in which there are at least three days of instruction, including examinations, scheduled.
Summer Shift, Stability & Restoration

**Summer** - For summer intersession daily census courses that cross fiscal years, associated FTES are to be reported in the fiscal year in which the census date falls or when the course ends. Districts have an ability to “shift” FTES between fiscal years. Provides an ability to smooth revenue reductions and provide time to develop strategies to either restore enrollment or make budgetary reductions.

**Stability** - “Guaranteed” funding for 1 year. By end of the subsequent year, college must achieve original FTES goal or lose funding (cash).

**Restoration** - Entitled to restore base funded FTES during three years following year of initial decrease.
Summer Shift Exercise

Hypothetical Community College:

• Enrollment year 1: 10,000 FTES comprised of:
  • summer (I1) 1,000 FTES (600 of which can be shifted),
  • fall 4,500 FTES,
  • and spring 4,500 FTES

• Enrollment year 2: 9,400 FTES comprised of:
  • summer (I1) 1,000 FTES (600 of which can be shifted),
  • fall 4,200 FTES,
  • and spring 4,200 FTES
Hypothetical Community College:

<table>
<thead>
<tr>
<th>No Shifting</th>
<th>With Shifting</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 9,400 FTES comprised of:</td>
<td>• 10,000 FTES comprised of:</td>
</tr>
<tr>
<td>o summer (I1) 1000 FTES,</td>
<td>o summer (I1) 1000 FTES,</td>
</tr>
<tr>
<td>o fall 4,200 FTES,</td>
<td>o fall 4,200 FTES,</td>
</tr>
<tr>
<td>o and spring 4,200 FTES,</td>
<td>o spring 4,200 FTES,</td>
</tr>
<tr>
<td></td>
<td>o and summer (I2) 600 FTES</td>
</tr>
<tr>
<td></td>
<td>(otherwise would have been</td>
</tr>
<tr>
<td></td>
<td>reported in year 4)</td>
</tr>
</tbody>
</table>

Discuss and evaluate impacts of no shifting and shifting of FTES assuming TCR of $53 million and marginal FTES funded rate of $5,300.
Exhibit C Components

I. Base Revenues
   A. Basic Allocation
   B. Base FTES
   C. Decline
II. Inflation Adjustment
III. Basic Allocation & Restoration
IV. Growth
V. Adjustments (FON)
VI. Stability
VII. TCR
VIII. Sources
IX. Allowances
X. Unrestored Decline (Restoration)
Guiding Questions For Discussion
Guiding Questions

- Does your institution disseminate its 320 report? If so, is it presented and discussed within the context of evaluating how the district is performing enrollment management and/or fiscal monitoring?

- Out of the various types of attendance accounting, which type tends to produce the greatest amount of WSCH or FTES?
EFFICIENCY AND PRODUCTIVITY
Productivity and Efficiency Metrics

Resources Needed to “Produce” FTES:

I. Facilities (Classrooms)
   A. FTES Capacity (Potential FTES)
   B. FTES Per Room/Section/Faculty
   C. Fill Rates Per Room/Section/Faculty

II. Faculty
   A. FTES Per FTEF
   B. WSCH Per FTEF
Exercises

(1) **Dollars and Enrollments**: Demonstration About Revenues Generated In a Section or Classroom

(2) **If my classroom only holds 25 students, how can I be expected to teach 35?:** Demonstration How Target **Average** Enrollment of 35 per Section (or 3.5 FTES per Section) Is Actually Achieved.
Productivity

$FTES = \text{OUTPUT} = \text{WORKLOAD} = \text{REVENUE}$

- **Potential FTES**: Amount of FTES if all classrooms scheduled at their capacity
- **Target FTES**: Amount of FTES the college needs to reach to achieve base plus growth
- **Actual FTES**: Amount of FTES Attained by a college in a term
I. FTES Productivity & Capacity

**Potential FTES:** Online and Classrooms.

- **Online Capacity:** Limited By Availability of LMS-proficient Faculty. Online Important But Is Not the Focus of Today’s Discussion.

- **Lecture and Laboratory Classroom Capacity:** Determined By Seats/stations In Laboratory and Lecture Classrooms and How Efficiently They Are Used.
Target FTES

• Should Be *Data-based* and Established in Advance
• Statewide Norm Used for Budgeting: 35 students per 3-hour section or **3.5 FTES** per 3-hour section, **4.7 FTES** per 4-hour section, etc.
• 35 Is An *Average* for a College, **NOT** a Universal Section Cap
• Sections Enrolling “Under-35” Need the “Over-35” Seat Classrooms To Offset Their Smaller Size
• Courses needing smaller class sizes due to pedagogical, safety, contractual, or other reasons should be assigned to classrooms of the same size whenever possible
Actual FTES & Fill Rates

- **Room Fill Rate**: Actual Enrollment ÷ Room Capacity
- **Section Fill Rate**: Actual Enrollment ÷ Section Cap or Limit
- **Optimal Efficiency**: Assigning Sections To Rooms That Have Capacities Equal to the Section Caps

Exercise (1): Dollars and Enrollments
Efficiency

• Efficiency is attained when resources (classrooms & faculty assignments) are allocated to their most productive uses.
• Examples:
  – Block Scheduling Practices are followed
  – Section caps match classroom capacities
  – Quality and Pedagogical Goals Are Considered
  – Sections offered (supply) matches sections needed (demand by students)
  – Over-scheduling and Under-scheduling Are Minimized
Inefficiency

• Inefficiency occurs when resources are not being used to their full potential
• Examples:
  – Section caps have been set lower than classroom capacities
  – Too many course sections offered relative to number needed (over-scheduling)
  – Too few course sections offered relative to number needed (under-scheduling)
  – Scheduling too many courses that fulfill the same General Education requirement or in the same time block
Why Inefficiency Is Undesirable

- Costs-per-section Are Pushed Upward, thus denying other programs budget support
- Student Access Suffers When Too Few Needed Course Sections Are Being Offered
- Student Completion and Success Suffer When Needed Sections Not Available Or Offered

Exercise (2): If my classroom only holds 25 students, how can I be expected to teach 35?
Enrollment Target
At 35/Section

What’s Needed To Reach An Enrollment Target of 35 Students Per Section

• A Sufficient Number of Classrooms Larger Than 35 to Pull Up the “Under-35s”
• Sufficient Student Demand
• A Sufficient Number (Supply) of Sections That Students Demand
• Section Caps That Match Room Capacities and Pedagogical Needs
The Average of 35 Will Fall If….

- More Under-35 sections Get Scheduled relative to Over-35s
- Over-35s Cannot Fill Sections (student demand shifts)
- Number of Over-35s Scheduled Declines
- Sections are not filling at rates of 90%+ generally (overscheduling)
II. Utilizing Faculty Resources

Two ratios are used to Track Faculty Productivity

- FTES/FTEF
- WSCH/FTEF

\[
FTES = \frac{(WCH \times N \times TLM)}{525}
\]

WSCH = WCH \times N

FTEF = 15 WCH

1 CLASS = 0.20 FTEF

*Faculty Cannot Generate More FTES Than Their Room’s Capacity—Set Targets Accordingly*
## FTES, WSCH CROSSWALK

<table>
<thead>
<tr>
<th>N = No. Enrolled</th>
<th>WSCH*</th>
<th>FTES**</th>
<th>FTES ÷ FTEF***</th>
<th>WSCH ÷ FTEF***</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>60</td>
<td>2.0</td>
<td>10.0</td>
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<td>525</td>
</tr>
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<td>40</td>
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<tr>
<td>45</td>
<td>135</td>
<td>4.5</td>
<td>22.5</td>
<td>675</td>
</tr>
</tbody>
</table>

*WSCH = WCH x N = 3 x 20 = 60 for 20 students enrolled.

**FTES = (WCH x N x TLM) ÷ 525 = (3 x 20 x 17.5) ÷ 525 = 1,050 ÷ 525 = 2.0 FTES.

***FTEF (full-time equivalent faculty) for one 3-hour class is 0.20 (one-fifth) of a faculty’s semester load. Dividing by one-fifth is the same as multiplying by 5.
WSCH and FTES Targets

• **ENGL 1A** CAP = 25
  – WSCH/FTEF Target = 375

• **COMMSTUD 1** CAP = 30
  – WSCH/FTEF Target = 450

• **ECON 1** CAP = 45
  – WSCH/FTEF Target = 675

Note: WSCH/FTEF Target Values are higher in Compressed Calendars to compensate for a smaller TLM (Term Length Multiplier).

• **ENGL 1A** CAP = 25
  – FTES/FTEF Target = 2.5

• **COMMSTUD 1** CAP = 30
  – FTES/FTEF Target = 3.0

• **ECON 1** CAP = 45
  – FTES/FTEF Target = 4.5

Note: FTES/FTEF Targets require no adjustments for Compressed Calendars – they are the same for all calendar types.
Keeping Productivity High

- Productivity approaches its capacity whenever section caps match room capacity.
- Block Scheduling Structure (e.g. MW 8-9:15 a.m., 7:30-9:20 a.m., 9:30-10:45 a.m., etc.) Enhances Student Access (FTES Productivity)
- Reallocation of Classrooms to Reflect Student Demand Enhances Student Access.
- Allocating Classrooms by Term and by Time Blocks/Modules Enhances Productivity
• Creating a Culture of *Quality with Efficiency* promotes sustainable financial health.

• FTES Targets are affected by classroom capacity and pedagogical needs.

• WSCH/FTEF and FTES/FTEF Targets are affected by classroom capacity and pedagogical needs.

• Over-35 Classrooms are needed to hit a college’s Target 3.5 FTES per section average.