Visualizing and Forecasting the Student Centered Funding Formula at SRJC

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Background

- Tableau Software, Tableau Server
- Access to SIS via SQL
- Citizen Researchers
- Enrollment Dashboard
- Student Centered Funding Formula
- SCFF Dashboard
Enrollment Dashboard

Student Headcount as of Yesterday (March 18, 2019)
26,404
(From SRSU site)

Compared to the same day last year (Wednesday, March 21, 2018)
-5.06% less than last year

FTES
Total Effective FTES as of Yesterday (March 18, 2019)
7,643.19
(From SRSU site)

Compared to the same day last year (Wednesday, March 21, 2018)
-5.16% less than last year
Enrollment Dashboard - Spring 2019
(as of Monday, March 18, 2019)

Actual Credit FTES Same Day Comparison
Spring Semesters 2016 through 2019

Actual Non-Credit FTES Same Day Comparison
Spring Semesters 2016 through 2019

Total Actual FTES Same Day Comparison
Spring Semesters 2016 through 2019

Current: Monday, March 18, 2019
Previous Year: Wednesday, March 21, 2018; Saturday, March 18, 2017; Sunday, March 20, 2016.
## Base Allocation

<table>
<thead>
<tr>
<th>FTES Workload Measures</th>
<th>Source/Calculation</th>
<th>SIS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit</td>
<td>CCFS-320</td>
<td>SIS</td>
</tr>
<tr>
<td>Non-Credit</td>
<td>CCFS-320</td>
<td>SIS</td>
</tr>
<tr>
<td>CDCP</td>
<td>CCFS-320</td>
<td>SIS</td>
</tr>
<tr>
<td>Special Admit Students</td>
<td>CCFS-320</td>
<td>SIS</td>
</tr>
<tr>
<td>Inmates Correctional Facilities - Credit</td>
<td>SG04 in (1, 2, 3, 4, 5, 6)*</td>
<td>----</td>
</tr>
<tr>
<td>Inmates Correctional Facilities – Non-Credit</td>
<td>SG04 in (1, 2, 3, 4, 5, 6)*</td>
<td>----</td>
</tr>
</tbody>
</table>
# Student Centered Funding Formula

<table>
<thead>
<tr>
<th>Category</th>
<th>Source/Calculation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pell Grant Recipient</td>
<td>$SF21 = GP^*$</td>
</tr>
<tr>
<td>Promise Grant Recipient</td>
<td>$SF21$ in (BA, B1, B2, B3, BB, BC, BD)^*</td>
</tr>
<tr>
<td>AB-540</td>
<td>CCFS-320</td>
</tr>
</tbody>
</table>
# Student Centered Funding Formula

## The Student Success Allocation Points

<table>
<thead>
<tr>
<th>Student Success Allocation - Measures</th>
<th>All Students</th>
<th>Promise Premium</th>
<th>Pell Premium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Associate Degrees for Transfer (ADTs) granted</td>
<td>4</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>Associate degrees granted (excluding ADTs)</td>
<td>3</td>
<td>3</td>
<td>4.5</td>
</tr>
<tr>
<td>Baccalaureate degrees granted</td>
<td>3</td>
<td>3</td>
<td>4.5</td>
</tr>
<tr>
<td>Credit certificates (16 units or more) granted</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Completion of transfer-level mathematics and English courses within first academic year of enrollment</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Successful transfer to four-year university</td>
<td>1.5</td>
<td>1.5</td>
<td>2.25</td>
</tr>
<tr>
<td>Completion of nine or more CTE units</td>
<td>1</td>
<td>1</td>
<td>1.5</td>
</tr>
<tr>
<td>Attainment of regional living wage</td>
<td>1</td>
<td>1</td>
<td>1.5</td>
</tr>
</tbody>
</table>
SCFF Dashboard Requirements

- Automatically updated daily from SIS and powerFAIDS servers
- Show three years of data (at least)
- Show all the parts of the SCFF for which data is available
- Do NOT show the actual $$$’s
- Ability to insert custom cohort (list of student id’s)
- Show projections where available
- Disaggregate by Department, Course (where applicable), Campus Location...
- FERPA (especially in the case of Financial Aid data)
- Tableau Server – password protected access only
SCFF Dashboard – Base Component
SCFF Dashboard – Supplemental Component
SCFF Dashboard – Student Success

Degrees and Transfer Degrees - Selected Cohort 2018

- **Associate’s Degrees**: 20
  - Percentage: 3.02%

- **Associate’s Degrees for Transfer**: 63
  - Percentage: 30.14%

- **Promise: Associate’s Degrees**: 11
  - Percentage: 2.72%

- **Promise: Associate’s Degrees for Transfer**: 39
  - Percentage: 29.10%

Academic Year

- 2016: 66
- 2017: 27
- 2018: 20

- 2016: 9.77%
- 2017: 2.17%
- 2018: 3.02%

- 2016: 24.09%
- 2017: 24.16%
- 2018: 20.14%

- 2016: 77
- 2017: 79
- 2018: 39

- 2016: 22.65%
- 2017: 20.20%
- 2018: 29.10%
SCFF Dashboard – Student Success

Certificates of 16+ Units - Selected Cohort 2018

- Certificates 16+ Units: 809
- Certificates 16+ Units Percentage: 100.00%

- Pell - Certificates 16+ Units: 219
- Pell - Certificates 16+ Units Percentage: 100.00%

- Promise - Certificates 16+ Units: 452
- Promise - Certificates 16+ Units Percentage: 100.00%

OIR SANTA ROSA JUNIOR COLLEGE
SCFF Dashboard – Student Success
### Transfer Math and English Completed in 1st Year
(Both Courses Completed on Selected Campus)

<table>
<thead>
<tr>
<th></th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transfer Math/Eng in 1st Year Headcount</td>
<td>23</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transfer Math/Eng in 1st Year Percentage</td>
<td>15.33%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pell - Transfer Math/Eng in 1st Year Headcount</td>
<td></td>
<td></td>
<td>Too Small</td>
</tr>
<tr>
<td>Pell - Transfer Math/Eng in 1st Year Percentage</td>
<td>0.00%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Promise - Transfer Math/Eng in 1st Year Headcount</td>
<td></td>
<td>25</td>
<td></td>
</tr>
<tr>
<td>Promise - Transfer Math/Eng in 1st Year Percentage</td>
<td></td>
<td>14.86%</td>
<td></td>
</tr>
</tbody>
</table>
SCFF Dashboard - Forecast
SCFF Dashboard - Forecast

9+ CTE Units

Headcount:
- 2012: 2,611
- 2013: 2,609
- 2014: 2,404
- 2015: 2,398
- 2016: 2,404
- 2017: 3,060
- 2018: 2,969
- 2019: Projections

Academic Year:
- 2012 to 2019

Note: The graph shows a trend of increasing headcount from 2012 to 2017, with a slight decrease in 2018 and projections for 2019.
Trend Lines Model

A linear trend model is computed for Headcount (actual & forecast) given AcademicYear.

Model formula: \[ \text{Forecast indicator} \times (\text{AcademicYear} + \text{intercept}) \]

- Number of modeled observations: 6
- Number of filtered observations: 0
- Model degrees of freedom: 3
- Residual degrees of freedom (DF): 3
- SSE (sum squared error): 242480
- MSE (mean squared error): 80826.8
- R-Squared: 0.383446
- Standard error: 284.3
- p-value (significance): 0.484125
### Options Used to Create Forecasts

- **Time series:** AcademicYear
- **Measures:** Headcount
- **Forecast forward:** 1 period (2018)
- **Forecast based on:** 2013 – 2017
- **Ignore last:** 1 period (2018)
- **Seasonal pattern:** None

### Headcount

<table>
<thead>
<tr>
<th></th>
<th>Change From Initial 2018</th>
<th>Seasonal Effect</th>
<th>Contribution Trend</th>
<th>Season</th>
<th>Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial 2018</td>
<td>0</td>
<td>None</td>
<td>0.0%</td>
<td>0.0%</td>
<td>Poor</td>
</tr>
<tr>
<td>2,969 ± 556</td>
<td>0</td>
<td>None</td>
<td>0.0%</td>
<td>0.0%</td>
<td>Poor</td>
</tr>
</tbody>
</table>
All forecasts were computed using exponential smoothing.

### Headcount

<table>
<thead>
<tr>
<th>Level</th>
<th>Model</th>
<th>Trend</th>
<th>Season</th>
<th>RMSE</th>
<th>MAE</th>
<th>MASE</th>
<th>MAPE</th>
<th>AIC</th>
<th>Alpha</th>
<th>Beta</th>
<th>Gamma</th>
</tr>
</thead>
<tbody>
<tr>
<td>Additive</td>
<td>Additive</td>
<td>None</td>
<td></td>
<td>284</td>
<td>241</td>
<td>1.10</td>
<td>9.3%</td>
<td>66</td>
<td>0.391</td>
<td>0.000</td>
<td>0.000</td>
</tr>
</tbody>
</table>
SCFF Dashboard - Demo