As of fall 2018, all incoming freshmen in the CSU system who need additional academic support to complete their GE writing (A2) or quantitative reasoning (B4) requirement must be allowed to do so in college-level courses that carry baccalaureate credit toward their degrees. This change has the effect of shifting away from pre-baccalaureate developmental coursework that does not count toward a student’s degree units.

At SF State, our GE writing courses used this baccalaureate credit model, with stretch courses (ENG 104/105 or ENG 201/202) for students who need additional support. In fall 2018, our GE math courses moved to this model as well, switching from Developmental Math to co-requisite math courses. In this report, we share some preliminary results on the impact of this change for the fall 2018 freshmen who required additional academic support in math. There are four pathways of Math placement. Here we focus on the two pathways where additional support is necessary (Pathways 3 and 4).

**Math Pathway 3**
**Executive Order 1110**
**Pre-EO 1110 (Fall 2016 First-time Freshmen Cohort)**

<table>
<thead>
<tr>
<th>Cohort: 660 (100%)</th>
<th>Failed Math 70 in 1st year</th>
<th>132 (20%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Passed Math 70 but did not take B4 in 1st year</td>
<td>216 (33%)</td>
</tr>
<tr>
<td></td>
<td>Passed Math 70 and took B4 in 1st year (312)</td>
<td>Failed B4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Passed B4</td>
</tr>
</tbody>
</table>

**Post-EO 1110 (Fall 2018 First-time Freshmen Cohort)**

<table>
<thead>
<tr>
<th>Cohort: 693 (100%)</th>
<th>Did not take Math in 1st year</th>
<th>135 (20%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Took B4 Stretch¹ in 1st year (84)</td>
<td>12 (2%) Failed Math 107 or 197</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13 (2%) Passed Math 107 or 197 but did not take Math 108 or 198</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7 (1%)</td>
</tr>
<tr>
<td></td>
<td>Took B4 Co-requisite in 1st year (474)</td>
<td>52 (8%)*</td>
</tr>
<tr>
<td></td>
<td></td>
<td>123 (18%)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>351 (51%)*</td>
</tr>
</tbody>
</table>

*With EO 1110, 58% of Pathway 3 students completed their B4 requirement with baccalaureate credits during the first year. This is 24% higher than the former requirement.

¹ Stretch Option: Credit-bearing 2-semester sequence aimed at STEM and Business majors.

² Co-requisite Option: Credit-bearing 1-semester co-requisite support course.
Pre-EO 1110 (Fall 2016 First-time Freshmen Cohort)

Cohort: 656 (100%)

- Failed Math 60 in 1st year: 86 (13%)
- Passed Math 60 but did not take Math 70 in 1st year: 30 (5%)
- Passed Math 60 and took Math 70 in 1st year (540)
- Failed Math 70: 86 (13%)
- Passed Math 70 but did not take B4 in Summer: 445 (68%)
- 2 (0.3%) Failed B4
- 9 (1%) Passed Math 60 and took B4 in Summer
- 7 (1%) Passed B4

Post-EO 1110 (Fall 2018 First-time Freshmen Cohort)

Cohort: 895 (100%)

- Did not take Math in 1st year: 165 (18%)
- Took B4 Stretch in 1st year (366)
  - 105 (12%) Failed Math 107 or 197
  - 55 (6%) Passed Math 107 or 197 and took Math 108 or 198
  - 28 (3%) Failed B4
  - 178 (20%)* Passed B4
- Took B4 Co-requisite in 1st year (364)
  - Failed B4: 122 (14%)
  - Passed B4: 242 (27%)*

* With EO 1110, 47% of Pathway 4 students completed their B4 requirement with baccalaureate credits during the first year. This is 46% higher than the former requirement.

1 Stretch Option: Credit-bearing 2-semester sequence aimed at STEM and Business majors.
2 Co-requisite Option: Credit-bearing 1-semester co-requisite support course.

Preliminary Conclusions

Under the new model, more first-time freshmen needing additional support successfully completed their GE mathematics/quantitative reasoning courses and received college credits for this work in their first year. These early results are very promising and are in line with other universities that have made similar changes. SF State will continue to examine the impact of these changes on student success.