FROM REMEDIATION TO SUPPORTED INSTRUCTION AT THE CALIFORNIA STATE UNIVERSITY

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CSU Readiness Initiatives: A Brief History

- 1997: Executive Order 665 establishes systemwide standards for academic readiness in mathematics and English based upon standardized tests and sets a one year limit for academic remediation.
- 2004: The Early Assessment Program established at every CSU campus and CST+EAP testing begins.
- 2010: Executive Order 1048 establishes the Early Start Program, mandatory remedial summer school for entering students.
- 2017: Executive Order 1110 repeals 665 and 1048, moving the CSU in a very different direction.

CSU Incoming Freshmen

CSU Freshman Readiness Rates, 1998 to 2017

- Mathematics
- English

<table>
<thead>
<tr>
<th>Year</th>
<th>Mathematics</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>30%</td>
<td>20%</td>
</tr>
<tr>
<td>2002</td>
<td>35%</td>
<td>25%</td>
</tr>
<tr>
<td>2006</td>
<td>40%</td>
<td>30%</td>
</tr>
<tr>
<td>2010</td>
<td>45%</td>
<td>35%</td>
</tr>
<tr>
<td>2017</td>
<td>50%</td>
<td>40%</td>
</tr>
</tbody>
</table>
Readiness Measures (Fall 2016)

<table>
<thead>
<tr>
<th>Mathematics</th>
<th></th>
<th>English</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>SAT/ACT, AP, EAP</td>
<td>38%</td>
<td>SAT/ACT, AP, EAP</td>
<td>52%</td>
</tr>
<tr>
<td>High School Course</td>
<td>14%</td>
<td>High School Course</td>
<td>17%</td>
</tr>
<tr>
<td>CSU Placement Test</td>
<td>12%</td>
<td>CSU Placement Test</td>
<td>4%</td>
</tr>
<tr>
<td>Early Start</td>
<td>8%</td>
<td>Early Start</td>
<td>3%</td>
</tr>
<tr>
<td>Remedial</td>
<td>28%</td>
<td>Remedial</td>
<td>23%</td>
</tr>
</tbody>
</table>

Four and Six Year Graduation Rates (2009 Cohort)

Graduation Initiative 2025

In September 2016, the CSU launched Graduation Initiative 2025, which has the following objectives:

- Increasing the six year graduation rate for first-time freshmen to 70%
- Increasing the four year graduation rate for first-time freshmen to 40%
- Eliminating the achievement gap.

College readiness is a central element of the initiative.
In September 2016, the CSU launched the Graduation Initiative 2025, which has the following objectives:

- Increasing the six year graduation rate for first-time freshmen to 70%
- Increasing the four year graduation rate for first-time freshmen to 40%
- Eliminating the achievement gap between URM and non-URM students.
Interesting Math Remediation Statistics

Los Medanos Community College

Transfer-Level Math Completion (3 years)

<table>
<thead>
<tr>
<th>Starting Level</th>
<th>LMC</th>
<th>CA</th>
<th>5-State Study</th>
<th>70% Model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intermediate Algebra</td>
<td>37%</td>
<td>35%</td>
<td>27%</td>
<td>34%</td>
</tr>
<tr>
<td>Elementary Algebra</td>
<td>18%</td>
<td>15%</td>
<td>20%</td>
<td>17%</td>
</tr>
<tr>
<td>Pre-Algebra/Arithmetic</td>
<td>10%</td>
<td>6%</td>
<td>10%</td>
<td>8%</td>
</tr>
</tbody>
</table>

Cuyamaca Community College

<table>
<thead>
<tr>
<th>Students' Starting Placement</th>
<th>% Completing Transfer-Level Math in 3 Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>One Level Below</td>
<td>35%</td>
</tr>
<tr>
<td>Two Levels Below</td>
<td>15%</td>
</tr>
<tr>
<td>Three+ Levels Below</td>
<td>6%</td>
</tr>
</tbody>
</table>

Over half of all African-American and Latino CCC students start at 3+ levels below GE math.
Interesting Math Remediation Statistics

SJSU Fall 2017: First Semester Math Remediation

<table>
<thead>
<tr>
<th>Student Outcome</th>
<th>Number (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Pass</td>
<td>343 of 934 (37%)</td>
</tr>
<tr>
<td>Low Pass</td>
<td>283 of 934 (30%)</td>
</tr>
<tr>
<td>No Credit</td>
<td>308 of 934 (33%)</td>
</tr>
</tbody>
</table>

Readiness Measures (Fall 2016)

Mathematics  | English
---|---
• SAT/ACT, AP, EAP | 38%  | 52%
• High School Course | 14%  | 17%
• CSU Placement Test | 12%  | 4%
• Early Start | 8%  | 3%
• Remedial | 28%  | 23%

Readiness Measures (Fall 2018)

Mathematics  | English
---|---
• SAT/ACT, AP, EAP | ??%  | ??%
• High School Course | ??%  | ??%
• CSU Placement Test | ??%  | ??%
• Early Start | ??%  | ??%
• Remedial | 0%  | 0%
Executive Order 1110 (August 2017)

Students whose skills assessments indicate academic support will be needed for successful completion of general education written communication or mathematics/quantitative reasoning courses shall enroll in appropriate college-level, baccalaureate credit-bearing courses that strengthen skills development to facilitate achieving the appropriate general education student learning outcomes. Supportive course models may include, among others, co-requisite approaches, supplemental instruction, or “stretch” formats that extend a course beyond one academic term. In these approaches, instructional content considered pre-baccalaureate may carry a maximum of one unit and shall be offered concurrently with a college-level, baccalaureate credit-bearing course.

Executive Order 1110

- **All students** are deemed ready upon entry, although some will still need academic support.
- **All students** will be expected to complete their written communication (A2) and quantitative reasoning (B4) GE requirements in their first year, although enforcement will vary from campus to campus.
- Students whose academic record suggests the need for English or math support will enroll in GE classes with embedded or co-requisite support.

**Executive Order 1110**

**Two Questions:**

- How will student readiness in mathematics and English be gauged?
- What forms of academic support will be available to students in need of supported instruction?
Mathematics Pathways at the CSU

- **Students will be categorized by major:** Calculus, Statistics, Non-STEM, and Undecided. Math course pathways will be closely aligned to courses of study.

- **Students will be categorized by skill upon entry:**
  - Category I: Math GE completed
  - Category II: Math GE ready
  - Category III: Math GE support required
  - Category IV: Math GE support and Early Start required

Mathematics Pathways at the CSU

- **Students will be categorized by major:** Students will be placed into Math/QR courses by major. For most students, the answer is *not* more algebra.

- **Support options include…**
  - Stretch courses
  - Co-requisite courses
  - Labs, workshops, and activities
  - Tutorial services
  - Counseling services

- **Support cannot** involve more than one unit, and students must be given a path to complete B4 in eight units *at most.*

Mathematics Pathways at SJSU

**STEM and Business:**
- MATH 01: Math Reasoning + co-requisite support
- MATH 08: College Algebra + co-requisite support
- MATH 19: Precalculus + co-requisite support

**Social Sciences:**
- UNVS 1015: Statway (stretch statistics)
- STATS 95 + co-requisite support

**Humanities and Arts:**
- MATH 10A: Mathematics in Art, Music, and Politics + co-requisite support
Mathematics Pathways at SJSU

Co-requisite courses…
- are 1 unit (college-level or prebaccalaureate)
- are taken concurrently with a GE math course
- provide just-in-time review of math topics necessary to pass the course
- avoid topics of interest to the instructor or of broader general use

Stretch courses…
- turn a one-semester course into a two-semester course
- offer built-in review of prebaccalaureate math topics

English Pathways at the CSU

Students will be categorized by skill upon entry:
- Category I: English GE completed
- Category II: English GE ready
- Category III: English GE support required
- Category IV: English GE support and Early Start required

Over the last five years, most CSU campuses have abandoned placement tests and remedial writing courses in favor of Stretch English and Directed Self-Placement (DSP).

English Pathways at the CSU

Directed Self Placement:
- Before Frosh Orientation, students complete a reflection exercise designed to gauge their level of their comfort with academic English.

Course Options:
- Students who feel comfortable with the DSP may choose a one-semester writing course to satisfy the written communication (A2) requirement.
- Students who do not feel comfortable with the DSP may choose a two-semester stretch writing course to satisfy the written communication (A2) requirement.
- Stand-alone composition courses are now uncommon.
Early Start: The New Version

- **Recommended but not required** for Category III
- **Required** for Category IV
- Students in Category IV in both subjects will complete Early Start in **one subject only**
- Early Start courses will still transfer between campuses
- International and out-of-state students are still **exempt** from the program

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Early Start: The New Version

- **Summer 2019:** Campuses must offer exclusively GE courses, mainly in written communication (A2) and quantitative reasoning (B4) with some built-in prebaccalaureate support
- **Summer 2018:** Campuses will offer primarily prebaccalaureate courses, although they may experiment with GE courses for their own fall students.
- Campuses may petition to experiment with GE courses other than A2 and B4.

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Early Start: The New Version

- **Cost:** Early Start fees will still be set at $182/unit. A 5-unit course (3 GE units + 2 support units) would cost $910.
- **Fee Waivers:** Students with Estimated Family Contributions of $5,000 or less will still receive a full fee waiver.
- Students must still pay for course materials (books, readers, software licenses, etc.), even with the fee waiver.
Executive Order 1110

Two Questions:

• How will student readiness in mathematics and English be gauged?
• What forms of academic support will be available to students in need of supported instruction?

Mathematics Proficiency

CATEGORY I: B4 Requirement Completed
• AP Calculus or Statistics: 3 or above
• IB HL Mathematics: 4 or above
• A C- or better in a transferable community college mathematics course that satisfies the quantitative reasoning requirement (B4)

CATEGORY II: B4 Ready without Support
• New SAT Mathematics: 570 or above
• SAT Subject Test (IC or IIC): 550 or above
• ACT Mathematics test: 23 or above
• A status of READY on the CAASPP/EAP in Mathematics
• A status of CONDITIONALLY READY on the CAASPP/EAP, SAT, or ACT in Mathematics + approved senior year coursework
• A passing score on the CSU’s Entry Level Mathematics Examination (ELM)
• Multiple Measures: Acceptable combination of HS GPA and coursework.

English Proficiency

CATEGORY I: A2 Requirement Completed
• AP English: 3 or above
• IB HL English: 4 or above
• A C- or better in a transferable community college mathematics course that satisfies the written communication requirement (A2)

CATEGORY II: A2 Ready without Support
• New SAT EBRW: 550 or above
• ACT English test: 22 or above
• A status of READY on the CAASPP/EAP in English
• A status of CONDITIONALLY READY on the CAASPP/EAP, SAT, or ACT in Mathematics + approved senior year coursework
• A passing score on the CSU’s English Placement Test (EPT)
• Multiple Measures: Acceptable combination of HS GPA and coursework.
The EAP uses existing CAASPP performance levels to determine EAP statuses in English and mathematics:

<table>
<thead>
<tr>
<th>CAASPP Level</th>
<th>EAP Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>READY</td>
</tr>
<tr>
<td>3</td>
<td>CONDITIONALLY READY</td>
</tr>
<tr>
<td>2 or 1</td>
<td>NOT YET READY</td>
</tr>
</tbody>
</table>

11th Grade Testing: Results

EAP Achievement Levels

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Conditional</td>
<td>33%</td>
<td>33%</td>
<td>32%</td>
<td>18%</td>
<td>20%</td>
<td>19%</td>
</tr>
<tr>
<td>Ready</td>
<td>23%</td>
<td>26%</td>
<td>28%</td>
<td>11%</td>
<td>13%</td>
<td>13%</td>
</tr>
</tbody>
</table>

Conditional statuses earned in the senior year will still count if the student is in an appropriate senior year course.

Additional Pathways to EAP Conditional Status Using SAT and ACT Scores

<table>
<thead>
<tr>
<th>Test</th>
<th>CSU Readiness Cut Score</th>
<th>Conditionally Ready Cut Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAT Math</td>
<td>570</td>
<td>520 – 560</td>
</tr>
<tr>
<td>SAT EBRW</td>
<td>550</td>
<td>510 – 540</td>
</tr>
<tr>
<td>ACT Math</td>
<td>23</td>
<td>20 – 22</td>
</tr>
<tr>
<td>ACT English</td>
<td>22</td>
<td>19 – 21</td>
</tr>
</tbody>
</table>
Appropriate Senior Year Coursework for Conditional Students

Students who are Conditionally Ready in mathematics can meet the CSU readiness standard by earning a C- or better (both semesters) in a yearlong math course that has Algebra II or Integrated Mathematics III as a prerequisite.

- Usually, these courses are designated Advanced Mathematics in the UC CMP, but they may also be designated Statistics.

Appropriate Senior Year Coursework for Conditional Students

Students who are Conditionally Ready in English can meet the CSU readiness standard by earning a C- or better (both semesters) in...

- AP English (either course)
- IB English (HL and SL)
- Honors English – GPA-weighted in UC CMP
- The CSU Expository Reading & Writing Course

Multiple Measures in Mathematics

**CATEGORY I: B4 Requirement Completed**

- Not possible through Multiple Measures

**CATEGORY II: B4 Ready without Support**

- FOR STEM MAJORS
  - Weighted HS Math GPA greater than or equal to 3.5, plus completed either an approved senior year course or 5+ years of Math/QR
  - Weighted HS GPA greater than or equal to 3.7
Multiple Measures in Mathematics

**CATEGORY II: B4 Ready without Support**
- FOR NON-STEM MAJORS
  - Weighted HS Math GPA greater than or equal to 3.0, plus completed an approved senior year course or 5+ years of Math/QR
  - EAP Smarter Balanced Assessment Level 3 (Conditionally Ready) and 4+ years of Math/QR
  - Weighted HS GPA greater than or equal to 3.7
  - Weighted HS GPA greater than or equal 3.5 plus 4+ years of Math/QR

**CATEGORY III: B4 Ready with Support**
- STEM: Weighted HS Math GPA greater than or equal to 3.3
- Non-STEM: Weighted HS Math GPA greater than or equal 3.3 or weighted HS GPA greater than or equal to 3.0

**CATEGORY IV: B4 Ready with Support & ESP**
- Did not meet any of the above standards.

Multiple Measures in English

**CATEGORY I: A2 Requirement Completed**
- Not possible through Multiple Measures

**CATEGORY II: A2 Ready without Support**
- Weighted HS GPA greater than 3.3
- Weighted HS GPA greater than 3.0 and...
  - an approved year-long senior English course (AP, IB, ERWC, or Honors) or
  - 5+ years of English
### Multiple Measures in English

**CATEGORY III: A2 Ready with Support**
- Weighted HS GPA greater than 3.0 and 4+ years of HS English
- Conditional SAT/ACT score and 4+ years of HS English

**CATEGORY IV: A2 Ready with Support & ESP**
- Did not meet any of the above standards.

### Big Themes from the Transition

- If you plan to go to college, especially at a CSU, stay in math. Don’t drop after Algebra II or Integrated Math III.
- Work on your overall HS GPA!
- Entering Undecided can leave you in limbo. Have a major in mind, even if you are admitted as Undecided.
- Take EAP-approved senior year courses in mathematics and English…and pass them.

### Data Websites

- For EAP results 2006 to 2014:
  https://eap.ets.org/Previous.htm
- For CAASPP/EAP results from 2015 onward:
  http://caaspp.cde.ca.gov/sb20XX/ViewReport
- For HS Proficiency and Remediation Data:
  http://asd.calstate.edu/performance/proficiency.shtml
- For your High School Dashboard (recent trend reports):
  http://www.calstate.edu/highschool
OTHER PROGRAM UPDATES

Fourth Year Math Course Options

- Four CSU campuses and campus partnerships won California Math Readiness Challenge Initiative Grants in October 2016:
  - CSU San Bernardino, CSU Long Beach, Cal Poly Pomona, San José State University (plus i3)
  - CSU Monterey Bay
  - Sacramento State University
  - San Diego State University
- Each winner received $1.28 million to develop senior year course options to enhance math readiness among college-bound high school seniors.

Math Reasoning with Connections (MRWC)

- The four-campus collaborative is developing a course called Mathematics Reasoning with Connections (MRWC)
- The course ties together math concepts from pre-algebra to precalculus, presenting topics as part of an integrated whole.
- The innovative curriculum is taught through discovery-based projects, collaborative learning, tarsia games, math fluency activities, geometric construction, graphing technology, and deep concept exploration.
- The focus is on developing mathematical reasoning. Explaining and justifying are central to the course.
- The course can serve as a bridge between Algebra II and Precalculus, or it can take the place of a traditional Precalculus curriculum.
MRWC Adoption

- The content of the course is highly challenging. Instructors receive 20 days of professional development to implement the course.
- Districts are accepted into the MRWC project only if they can send at least two teachers per implementing site and a district instructional coach to provide ongoing support.
- At present, teachers receive 4 CEUs and a stipend to pilot the course. The CEUs will continue to be available, but probably not the stipend.
- The East Side Union is SJSU's partner district in the first year of implementation (2017-18).

New Developments in the ERWC

- The CSU Expository Reading & Writing Course, 3rd edition, is due to hit the stands in Fall 2019.
- The new edition be evenly balanced between expository texts and literature.
- The new edition will cover the junior and senior years. Schools will not be required to adopt both years of curriculum to teach the course.
- There will be new modules related to career pathways.
- EL support will be a fully developed feature of the curriculum.
- A hybrid live/online version of the course is in development.

Advanced ERWC Certification

- Local SJSU-SCCOE initiative
- Aligned with the ERWC 3.0 template
- Emphasis on focusing instruction through formative assessment.
- The East Side Union is SJSU’s partner district in 2017-18.
### Useful EAP Websites
- CSUMathSuccess.org
- CSUEnglishSuccess.org
  - Information for students, parents, teachers, and counselors pertaining to CSU academic readiness.
  - Practice test materials.

### Useful Early Start Websites
- [www.sjsu.edu/sfs/earlystart](http://www.sjsu.edu/sfs/earlystart)
- CSU Early Start Course Listing: earlystart.csusuccess.org/csucampus

### Useful EO1110 Website
- [www.sjsu.edu/sfs/supportedinstruction](http://www.sjsu.edu/sfs/supportedinstruction) (under construction)

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For further information, contact your friendly local CSU Early Assessment and Early Start Program Office:

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