Proposal to Modify First-Year Admission Requirements for the CSU

CSU Board of Trustees
Committee on Educational Policy—Item 5
September 24-25, 2019

August 29 Board Meeting

Areas of Widespread Agreement

• We all must do better, collectively, to serve California’s diverse students
• Academic preparation matters
• Importance of authentic access
• Quantitative reasoning supports success in college, the workforce and everyday life
August 29 Board Meeting

Areas with Questions

• Capacity
• Impact
• Partnerships
• Timing

Overview

• CSU Proposal
• PK-12 School District Capacity
• Implementation Plan
• Partnerships & Continued Consultation
What is “Quantitative Reasoning?”

Disciplinary Context/Real World

Math

Critical Thinking

QR

CSU Proposal

- An admission requirement that incoming first-year students must have completed one course of quantitative reasoning
- Requirement could be fulfilled by coursework in science, math or an elective course with a quantitative reasoning foundation
- Students would be encouraged to take the course in their senior year
### Current “a-g” Requirements

<table>
<thead>
<tr>
<th>Area</th>
<th>Subject</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>History and Social Science</td>
<td>2</td>
</tr>
<tr>
<td>b.</td>
<td>English</td>
<td>4</td>
</tr>
<tr>
<td>c.</td>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>d.</td>
<td>Laboratory Science</td>
<td>2</td>
</tr>
<tr>
<td>e.</td>
<td>Language Other Than English</td>
<td>2</td>
</tr>
<tr>
<td>f.</td>
<td>Visual and Performing Arts</td>
<td>1</td>
</tr>
<tr>
<td>g.</td>
<td>College Preparatory Elective or an additional course from a-f</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total Required Courses** 15

### Proposed “a-g” Requirements

<table>
<thead>
<tr>
<th>Area</th>
<th>Subject</th>
<th>Courses</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>History and Social Science</td>
<td>2</td>
</tr>
<tr>
<td>b.</td>
<td>English</td>
<td>4</td>
</tr>
<tr>
<td>c.</td>
<td>Mathematics</td>
<td>3</td>
</tr>
<tr>
<td>d.</td>
<td>Laboratory Science</td>
<td>2</td>
</tr>
<tr>
<td>e.</td>
<td>Language Other Than English</td>
<td>2</td>
</tr>
<tr>
<td>f.</td>
<td>Visual and Performing Arts</td>
<td>1</td>
</tr>
<tr>
<td>g.</td>
<td>College Preparatory Elective or an additional course from a-f</td>
<td>2</td>
</tr>
</tbody>
</table>

**AND a course from c, d or a quantitative reasoning course within g**

**Total Required Courses** 16
Course-Taking Behavior of Entering CSU Students

- Students took 21 a-g courses in high school
- Consistent across all ethnic groups
- Proposal would require students take 16 a-g courses

Examples of Qualifying Courses

College Preparatory Electives (Area ‘g’)

- Personal Finance
- Introduction to Business
- Coding
- Robotics
- Healthcare Analysis
- Economics
- Agricultural Biology
- Veterinary Science
- Forensics
- Green Technology
- Sports Medicine
- Engineering
- Computer Science
- Game Development
Committee on Educational Policy  
Agenda Item 5  
September 24-25, 2019  

Multiple Paths to Completion

<table>
<thead>
<tr>
<th>9th GRADE</th>
<th>10th GRADE</th>
<th>11th GRADE</th>
<th>12th GRADE</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student A</strong> Arts</td>
<td>Algebra I</td>
<td>Geometry</td>
<td>Algebra II</td>
</tr>
<tr>
<td><strong>Student B</strong> STEM</td>
<td>Integrated Math I</td>
<td>Integrated Math II</td>
<td>Integrated Math III</td>
</tr>
<tr>
<td><strong>Student C</strong> Social Sciences</td>
<td>Algebra I</td>
<td>Geometry</td>
<td>Environmental Science</td>
</tr>
<tr>
<td><strong>Student D</strong> Undecided</td>
<td>Integrated Math I</td>
<td>Integrated Math II</td>
<td>Integrated Math III</td>
</tr>
</tbody>
</table>

Fortuna High School (Humboldt County)

- Sustainable Agriculture Biology
- Agriculture and Soil Chemistry
- Programming Fundamentals (dual enrollment)
- Intro to Game Development (dual enrollment)
- Anatomy
- Chemistry (Honors)
- AP Calculus A/B
- Green Technology
- Financial Management
- Pre-calculus
- Statistics/Probability
- Calculus AB
- Environmental Science
- Chemistry and Agri-science
- STEM Physics
- Statistics

AP = Advanced Placement
Fresno High School (Fresno County)

- Advanced Topics in Medicine
- Advanced Topics in Medical Research
- Applications Programming
- Biochemistry
- Computer Science IB HL1
- Computer Science IB HL2
- Construction Technology I
- Construction Technology II
- Cybersecurity
- Engineering I
- Engineering II
- Foods and Nutrition
- Forensic Research and Biotechnology
- Global Economics and Finance
- Money and Banking
- Robotics and Electronics
- WBL Technology
- Mathematical Studies IB
- Mathematics IB
- Trigonometry - Elementary Functions
- Advanced Sciences Topics AB
- AP Computer Science Principles
- Biology
- Biology IB
- Biotechnology Accelerated & Research
- Chemistry
- Clinical Anatomy & Physiology
- Engineering Research and Development
- ROP Environmental Science & Technology
- Environmental Systems & Societies
- Neuroscience
- Physical Forensic Science
- Physics
- Physics and Technology
- Physiology
- Zoology

AP = Advanced Placement  ROP = Regional Occupational Program
WBL = Work Based Learning  IB = International Baccalaureate

Martin Luther King High School (Riverside County)

- Business, Technology and 21st Century Skills
- Digital Electronics
- Earth Science
- Exploring Computer Science
- Game Design 1
- Game Design 2
- PLTW Civil Engineering and Architecture
- PLTW Principles of Engineering
- PLTW Computer Integrated Manufacturing
- PLTW Digital Electronics
- PLTW Engineering Design and Development
- Introduction to Engineering Design
- RCOE Sports Medicine & Therapeutic Services
- RCOE Sports Medicine Advanced
- AP Calculus AB
- AP Calculus BC
- AP Computer Science
- AP Statistics
- Probability and Statistics
- Anatomy/Physiology
- AP Biology
- AP Chemistry
- AP Environmental Science
- AP Physics 1
- AP Physics 2
- Biology of the Living Earth
- Chemistry in the Earth System
- Marine Biology
- Physics of the Universe

AP = Advanced Placement  RCOE = Riverside County Office of Education
PLTW = Project Lead the Way
Exemption

Ongoing Commitment to Student Access

• If a student does not have access to a qualifying course, they would receive an exemption and additional academic support
• Partnership with CDE would automate the exemption
• Exemption data would further support capacity-building efforts
• Exemption would “phase-out” as schools built capacity

Overview

• CSU Proposal
• Existing District Capacity
• Implementation Plan
• Partnerships & Continued Consultation
High School Graduation Requirements Align with the CSU Proposal

- San Diego Unified
- Long Beach Unified
- Elk Grove Unified
- Fresno Unified
- San Bernardino City Unified
- Oakland Unified
- Stockton Unified*
- La Canada**
- Rocklin Unified
- Lake Elsinore Unified
- Murrieta Valley Unified
- Perris Union
- San Jacinto Unified

*Beginning with the Class of 2023
**Beginning with the Class of 2021

Existing High School Capacity

Of California Comprehensive High Schools...

- 99.7% offer at least one qualifying course
- 96.2% offer at least three qualifying courses (one math course and two or more science or electives)
Existing High School Capacity

Schools with Limited Capacity

- 16 out of 1,453 high schools offer fewer than 3 qualifying courses or only offer a math course
  - Graduated a combined 450 students
  - Approximately 56 students met the existing a-g requirements

CSU Review of UCOP 2019-20 a-g Approved Course List

Overview

- CSU Proposal
- Existing District Capacity
- Implementation Plan
- Partnerships & Continued Consultation
Implementation Plan

Identified the Districts Where Further Examination of Student Course-Taking Behavior is Needed

- Baldwin Park Unified
- Calexico Unified
- Central Unified
- Central Union High
- Chico Unified
- Coachella Valley Unified
- Delano Joint Union High
- Kern County Office of Education
- Kern High
- Lodi Unified
- Manteca Unified
- Merced Union High
- Oceanside Unified
- Salinas Union High
- San Gabriel Unified
- San Juan Unified
- Santa Rosa High
- Turlock Unified
- Visalia Unified
- Wasco Unified High
- Washington Unified

CSU Institutional Research & Analyses: Fall 2018 First-Time Student Data

CSU is Partnering with PK-12 Districts to Build Capacity by 2026

<table>
<thead>
<tr>
<th>Implementation Area</th>
<th>Strategy and Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum</td>
<td>CMRCI Bridge Courses</td>
</tr>
<tr>
<td></td>
<td>CSU Center for Advancement of Instruction in Quantitative Reasoning</td>
</tr>
<tr>
<td></td>
<td>University of California - Course Management Portal</td>
</tr>
<tr>
<td>Teaching Capacity</td>
<td>CSU Colleges/Schools of Education</td>
</tr>
<tr>
<td></td>
<td>Math-Science Teacher Initiative</td>
</tr>
<tr>
<td></td>
<td>Center for Closing the Achievement Gap</td>
</tr>
<tr>
<td>Communication</td>
<td>CSU Counselor Conferences</td>
</tr>
<tr>
<td></td>
<td>CSU Outreach and Recruitment</td>
</tr>
<tr>
<td></td>
<td>California College Guidance Initiative</td>
</tr>
</tbody>
</table>
Implementation Plan

Will Follow the Expository Reading and Writing Curriculum Model for Capacity Building

- Courses developed by CSU and high school faculty
- Partnerships with California’s county offices of education to integrate courses into high schools
- CSU Center for the Advancement of Reading and Writing supports professional development

CSU is Partnering with PK-12 Districts to Build Capacity by 2026 Through Bridge Courses

- Los Angeles
- Monterey
- Nevada
- Placer
- Riverside
- Sacramento
- San Bernardino
- San Diego
- San Luis Obispo
- Santa Barbara
- Santa Clara
- Solano
- Yolo
CSU is Partnering with PK-12 Districts to Build Capacity by 2026

Through Bridge Courses

<table>
<thead>
<tr>
<th>Course Title</th>
<th>Number of Schools</th>
<th>Students (approx.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transition to College Level Mathematics</td>
<td>8</td>
<td>197</td>
</tr>
<tr>
<td>Transition to College Mathematics and Statistics</td>
<td>48</td>
<td>2,131</td>
</tr>
<tr>
<td>Quantitative Reasoning with Advanced Math Topics</td>
<td>52</td>
<td>4,293</td>
</tr>
<tr>
<td>Mathematical Reasoning with Connections</td>
<td>48</td>
<td>2,963</td>
</tr>
<tr>
<td>Discrete Mathematics for Pre-College Students</td>
<td>12</td>
<td>1,204</td>
</tr>
</tbody>
</table>
| Totals                                           | 168               | 10,788             

Implementation Area Strategy and Investment

<table>
<thead>
<tr>
<th>Implementation Area</th>
<th>Strategy and Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Curriculum</td>
<td>CMRCI Bridge Courses</td>
</tr>
<tr>
<td></td>
<td>CSU Center for Advancement of Instruction in Quantitative Reasoning</td>
</tr>
<tr>
<td></td>
<td>University of California - Course Management Portal</td>
</tr>
<tr>
<td>Teaching Capacity</td>
<td>CSU Colleges/Schools of Education</td>
</tr>
<tr>
<td></td>
<td>Math-Science Teacher Initiative</td>
</tr>
<tr>
<td></td>
<td>Center for Closing the Achievement Gap</td>
</tr>
<tr>
<td>Communication</td>
<td>CSU Counselor Conferences</td>
</tr>
<tr>
<td></td>
<td>CSU Outreach and Recruitment</td>
</tr>
<tr>
<td></td>
<td>California College Guidance Initiative</td>
</tr>
</tbody>
</table>
Overview

• CSU Proposal
• Existing District Capacity
• Implementation Plan
• Partnerships & Continued Consultation

In Summary

This proposed policy will...

• Improve students’ success in college, the workforce and daily life
• Provide students with flexibility
• Provide PK-12 districts support and time to prepare
• Ensure that no student is denied access to the CSU through matters beyond their control