Efficiency is more **outputs** per **input**.

**Administrative Efficiency Initiatives**
- Giving staff and management training
- Sharing best practices
- Opportunities identified

**Continuous Improvement**
- $37M in costs avoided since 2010
- No annual cost increase in 10 years
- $2M saved annually since April from moving CSU data center to a smaller facility
- $2.5M in costs avoided over 5 years from enterprise software consolidation

**Information Technology**

**Financial Services**
- $2M in costs avoided over the past year from operating and upgrading common financial system
- $51M in costs reduced over the past year through strategic debt refinancing
- $7M in reduced insurance claims over the past year from cost management strategies
- $4M reduction in current-year property insurance rates
- $7M in workers compensation costs avoided this past year through collaborative training, medical cost containment, and focused claim resolution programs

**Commitment to Effectiveness**
- Driver: More students, constrained budgets
- Serving More Students

---

**CSU The California State University**
**Working for California**
Efficiency is more outputs per input.

Introduction

Since the January Budget, the state’s economy has strengthened with a better prospect of deficits in succeeding years. The state has begun to address existing liabilities, such as delinquent maintenance on its road system and its unfunded liability for future retiree health care benefits for public pensions. In this budget, under Proposition 2, the state is keeping the sales tax dedicated to prepare for the inevitable next recession by saving money for future years.

The May Revision reflects a $6.7 billion increase in the state’s budget compared to the January Budget. The Constitution, respectively, Directs the use of these revenues as follows:

- Proposition 2B increases General Fund spending by $5 billion for community colleges.

The Governor’s Budget proposes $11.95 million General Fund ongoing for CSU with similar 4-percent increases in future years, as well as $25 million General Fund on a one-time basis for deferred maintenance at CSU campuses. The CSU has indicated that it would use the additional resources proposed in the Governor’s Budget for the following:

- Reduce existing obligations, such as increased costs for pensions and health benefits.
- Increase employee compensation systemwide by 2 percent.
- Support the cost of the enrollment of about 4,000 additional students.
- Address backlogs in critical maintenance and infrastructure.

In its annual performance report to the Governor and the Legislature, the CSU has indicated that about 27 percent of students who enter as freshmen graduate within four years. The four-year rate for low-income students (12 percent) is about half that of their peers (24 percent), and that gap persists after six years, when 48 percent of low-income students will have graduated, compared to 69 percent for their peers. About half of CSU students transferred from the community colleges— an important role the CSU has embraced within California’s higher education system. Nearly 30 percent of transfer students graduate within two years, and low-income transfer students graduate at close to the same rates as their peers.

Shortening the time it takes undergraduates to graduate and increasing the number who complete their degrees is critical for students and their families, and improves access for future students. The CSU chancellor has committed to addressing these challenges. The CSU’s Graduation Initiative sets goals to be achieved by the year 2025, including a four-year graduation rate for freshman entrants of 24 percent and a two-year rate for transfer students of 35 percent. The CSU will report publicly on its progress toward these goals and work to meet or exceed these targets and timelines.
Efficiency is more outputs per input.
Efficiency is more **outputs** per **input**.

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<thead>
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<tr>
<td><strong>Student Success</strong></td>
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</tbody>
</table>
Affordable Learning Solutions

- **$30 million** in savings for students from
  - Rent Digital program
  - used book programs
  - buy back programs

- **$1.6 million** savings in plagiarism detection.
- **$114,000** savings in faculty professional development.
- **$1.73 million** savings in Learning Management Systems.
- **25% reduction** in cost of SoftChalk.
- **$1.9 million** savings in TechSmith flipped classroom materials.
$112,000 savings per year in outreach to high schools and community colleges.
$10 million savings in single application for admission.
$500,000 savings through bulk purchases of eAdvising.
CSUPERB grants 2004-2012: $4,289,158
follow-on funding from external sources: $52,869,303
Economies of Scale

Student Success

K-12

high school testing

Early Start 120/180
Economies of Scale

Student Success

The California State University
WORKING FOR CALIFORNIA

high school testing

Early Start 120/180

Entering freshman ready in both English and math: 43% (2010) => 59% (2014)
94% of bachelor of arts and bachelor of science degree programs systemwide

100% of bachelor of arts and bachelor of science degree programs at:

- Bakersfield
- Channel Islands
- Fullerton
- Humboldt
- Long Beach
- Monterey Bay
- San José
- Sonoma
- San Marcos
- Stanislaus
All majors are 60 + 60
Transfer Model Curricula in 30 transfer majors
15,000 degrees granted since 2012
CSU Los Angeles Biology hybrid labs
## CSU Los Angeles Biology hybrid labs

### Biology 155 Enrollment by Class Level

<table>
<thead>
<tr>
<th>WEEK</th>
<th>TRACK A</th>
<th>TRACK B</th>
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<tbody>
<tr>
<td>1</td>
<td>Intro to virtual lab</td>
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</tr>
<tr>
<td>2</td>
<td>Individual online exercises</td>
<td>Intro to virtual lab</td>
</tr>
<tr>
<td>3</td>
<td>Group report in lab</td>
<td>Individual online exercises</td>
</tr>
<tr>
<td>4</td>
<td>Individual online exercises</td>
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<tr>
<td>5</td>
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<td>9</td>
<td>Group report in lab</td>
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<tr>
<td>10</td>
<td>No lab</td>
<td>Group report in lab</td>
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</tbody>
</table>
CSU Los Angeles Biology hybrid labs
Biology 155 Enrollment by Class Level

Spring 2013

Spring 2014

Economies of Scale

Student Success

Course Redesign with Technology
CSU Los Angeles Biology hybrid labs
Biology 155 Cost per Student

- Wet: $127.39
- Online: $36.84
- Hybrid: $80.57

Course Redesign with Technology
CSU Los Angeles Biology hybrid labs
Biology 155 Repeatable Grades

- Wet: 8%
- Online: 15%
- Hybrid: 3%

Economies of Scale
Student Success
Course Redesign with Technology
CSU Los Angeles Biology hybrid labs
Biology 155 Course Grade Point Averages

- Wet: 2.58
- Online: 2.60
- Hybrid: 3.20

Economies of Scale
Student Success
Course Redesign with Technology
CSU Los Angeles Biology hybrid labs
Biology 155 Changes in Favorable Attitudes

Economies of Scale
Student Success

Course Redesign with Technology
CSUN hybrid labs for Elementary Math
CSUN hybrid labs for Elementary Math
CSUN hybrid labs for Elementary Math

Flow of Student Learning for Hybrid Lab Course Model

Economies of Scale

Student Success

Course Redesign with Technology
CSU Fullerton Supplemental Instruction

Economies of Scale

Student Success

Course Redesign with Technology
CSU Fullerton Supplemental Instruction Calculus I Passing Rates

- URM without Supplemental Instruction: 62%
- URM with Supplemental Instruction: 80%
- Non-URM without Supplemental Instruction: 35%
- Non-URM with Supplemental Instruction: 73%

Course Redesign with Technology
CSU Fullerton Supplemental Instruction
Calculus I Passing Rates: Transfers

<table>
<thead>
<tr>
<th></th>
<th>URM Non-URM</th>
<th>with Supplemental Instruction</th>
<th>without Supplemental Instruction</th>
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</thead>
<tbody>
<tr>
<td>URM</td>
<td>20%</td>
<td>89%</td>
<td>76%</td>
</tr>
<tr>
<td>Non-URM</td>
<td>58%</td>
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</tbody>
</table>

Student Success

Course Redesign with Technology

Economies of Scale
CSU Fullerton Supplemental Instruction

Calculus I Passing Rates: Natives

- URM: 38%, 73%, 81%
- Non-URM: 58%

Economies of Scale

Student Success

Course Redesign with Technology
Summary: current CSU programs that address course bottlenecks

<table>
<thead>
<tr>
<th>bottleneck</th>
<th>related strategy</th>
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<tbody>
<tr>
<td>Course Repeats and Fails</td>
<td>Course Redesign with Technology</td>
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<tr>
<td>Scarcity of Seats</td>
<td>CourseMatch, Cal State Online</td>
</tr>
<tr>
<td>Scarcity of Facilities</td>
<td>Virtual Labs, Construction</td>
</tr>
<tr>
<td>Student Course Choices</td>
<td>eAdvising, New Advisor Hires</td>
</tr>
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<td>Scarcity of Faculty</td>
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<td>Scarcity of Public Funding</td>
<td>Outreach and Public Advocacy</td>
</tr>
</tbody>
</table>
outputs
inputs

time
money
sacrifice and dedication of students, families
commitment and passion of educators
community support
Improved Effectiveness

Economies of Scale

Student Success

The California State University

High Impact Practices
CSU Faculty Research, Scholarship, and Creative Activity

Improved Effectiveness

Economies of Scale

Student Success

HIGH IMPACT PRACTICES
4.1 Physical Plant. An approved program should have classroom, teaching laboratory, research, office, and common space that is safe, well-equipped, modern, and properly maintained.

- Chemistry classrooms and chemistry faculty offices should be reasonably close to instructional and research laboratories.
- Classrooms should adhere to modern standards for lighting, ventilation, and comfort and have proper demonstration facilities, projection capabilities, and internet access.
- Laboratories should be suitable for instruction in the chemical sciences and must meet applicable government regulations. Properly functioning fume hoods, safety showers, eyewashes, first aid kits, and fire extinguishers must be readily available. Construction or renovation of laboratory facilities must conform to the regulations of the Occupational Safety and Health Administration (OSHA) and national norms. The number of students supervised by a faculty member or by a teaching assistant should not exceed 25. Many laboratories require smaller numbers for safe and effective instruction.
- Faculty and student research laboratories should have facilities appropriate for the type of work conducted in them. These facilities should permit maintaining experimental arrangements for extended periods of time during ongoing research projects.
- The program should have access to support facilities such as machine, electronic, and glass fabrication shops to support both teaching and research.

4.2 Instrumentation. The characterization and analysis of chemical systems requires an appropriate suite of modern chemical instrumentation and specialized laboratory apparatus to support undergraduate instructional and research missions.

- Instrumentation should be modern, high quality, and properly maintained.
- Approved programs must have a functioning NMR spectrometer that undergraduates use in instruction and research. The Committee strongly recommends an FT-NMR spectrometer.
- Throughout their curriculum, undergraduates must use additional instrumentation and specialized laboratory apparatus from most of the broad categories listed below, chosen as appropriate to the teaching and research needs of the program:
CSU Faculty Research, Scholarship, and Creative Activity

NMR Spectrometer
• used to identify chemical compounds
• average cost of $362,000
CSU faculty-won Instrumentation grants from the National Science Foundation: $7.24 million

16 campuses, with another $1 million for supplies and consumables to integrate into undergraduate curriculum

$23.3 million in other instrumentation for chemistry
CSU Faculty
Research, Scholarship,
and Creative Activity

$510,426,893
externally funded active awards in STEM
across 23 CSUs as of April 2015
## Academic Efficiencies and Effectiveness

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<td>High-Impact Practices</td>
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<td>Pre-Doctoral Program</td>
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<td>fewer D F W</td>
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<td>STEM Affinity Groups</td>
<td><strong>Course Redesign with Technology</strong></td>
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- **High-Impact Practices**
- **Faculty Research, Scholarship, and Creative Activity**
- **International Programs**
- **Summer Arts**
- **Community Engagement**
- **CSU STEM VISTA**
- **Faculty Development**
- **Course Redesign with Technology**
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Additional Bachelor Degrees Earned Annually resulting from Graduation Initiative and Other Student Success Efforts

171,000

Graduation Initiative 2025