

AGENDA

COMMITTEE ON EDUCATIONAL POLICY

Meeting: 10:30 a.m., Tuesday, September 11, 2018
Glenn S. Dumke Auditorium

Peter J. Taylor, Chair
Jane W. Carney, Vice Chair
Rebecca D. Eisen
Debra S. Farar
Wenda Fong
Emily Hinton
Lillian Kimbell
Thelma Meléndez de Santa Ana
John Nilon
J. Lawrence Norton
Romey Sabalius
Christopher Steinhauser

- Consent** 1. Approval of Minutes of the Meeting of May 15, 2018, *Action*
- Discussion** 2. International Education, *Information*
3. Research, Scholarship and Creative Activities, *Information*
4. Graduation Initiative 2025, *Information*

**MINUTES OF MEETING OF
COMMITTEE ON EDUCATIONAL POLICY**

**Trustees of The California State University
Office of the Chancellor
Glenn S. Dumke Conference Center
401 Golden Shore
Long Beach, California**

May 15, 2018

Members Present

Lillian Kimbell, Chair
Jorge Reyes Salinas, Vice Chair
Silas H. Abrego
Jane W. Carney
Debra S. Farar
Jean Picker Firstenberg
John Nilon
J. Lawrence Norton
Romey Sabalius
Rebecca D. Eisen, Chair of the Board
Timothy P. White, Chancellor

Trustee Kimbell called the meeting to order.

Approval of Minutes

The minutes of March 20, 2018, were approved as submitted.

Approval of Recommended Amendments to Title 5 Regarding Doctor of Nursing Practice Degree Programs

Loren J. Blanchard, executive vice chancellor for Academic and Student Affairs, introduced the action item, reminding trustees that the Title 5 amendments were presented as an information item during the March meeting. He noted that the amendments are designed to bring Title 5 regulations into alignment with amended California Education Code regarding CSU Doctor of Nursing Practice (DNP) degree programs. The Title 5 amendments: specify that the CSU is authorized to offer DNP programs on a permanent basis; explain that campuses may partner to offer joint programs, if desired; describe DNP programs and their purpose; list degree requirements; and identify criteria for admitting applicants.

Following the presentation, trustees did not have any questions. The committee recommended approval of the proposed resolution. **(REP 05-18-04)**

Online Education

Loren J. Blanchard, executive vice chancellor for Academic and Student Affairs, introduced the information item. He noted that the CSU has offered online education since the late 1990s in order to best serve our students and meet their demand for flexibility. He also highlighted that as the CSU continues to press forward with Graduation Initiative 2025, online education is an important tool for increasing access, meeting students' needs and facilitating degree completion.

Gerry Hanley, assistant vice chancellor for Academic Technology Services, provided a primer on online education at the CSU. He highlighted that CSU campuses offer online education to students through full degree programs, certificate and credential programs and individual online courses, and that offerings and enrollment continue to grow. Additionally, he highlighted quality assurance measures that ensure online courses are high quality and covered the benefits – and limitations – of online education.

Following the presentation, trustees asked a number of questions. Several trustees had questions about State Authorization Reciprocity Agreements (SARA), why California is not part of SARA and what can be done to address this fact. Trustees also asked about the size and scope of current CSU offerings, costs of online education and whether it could be an avenue for additional revenue for the CSU. Finally, trustees also asked about cross-campus enrollment. Staff responded that student preference is often to take courses at their home campus, not other CSU campuses, however efforts are underway to improve the marketing of cross-campus enrollment opportunities.

Student Health Services

Denise Bevly, director of Student Wellness and Basic Needs Initiatives, presented the information item, providing a primer on student health services at the CSU. She explained that student health centers are primarily funded through campus-based student fees, which are enacted through student referendums or campus consultation, and reviewed the basic health services all CSU campuses provide to students. She spoke to how the CSU is seeking opportunities to be more innovative in providing students the care they need. Finally, she clarified that this presentation was specific to physical health and that a future board presentation would cover mental health services.

Joy Stewart-James, associate vice president, Student Health and Counseling Services, provided a campus perspective, highlighting the health services provided at CSU Sacramento. She also highlighted the rapid growth in the utilization of services and critical factors that have led to the student health center's success.

Finally, three peer health educators from CSU Fullerton shared their experience with the board. As peer health educators, these students actively promote health and wellness to their peers, with a goal of providing students the resources and tools to help them stay healthy and be successful in college.

Following the presentation, trustees asked a number of questions. Questions largely focused on funding, with questions regarding less expensive options for providing care and the discrepancy in student health fees. Staff explained that the discrepancy in student health fees is driven by the regional and campus-based circumstances. For example, Cal Maritime's student health fee is significantly higher, however that is a result of the challenge of providing health care to students experiencing unique global travel. Trustees also requested a follow-up report detailing how campuses provide reproductive health services as well as prevention and screening to students for alcohol and substance abuse and eating disorders.

Trustee Kimbell adjourned the Committee on Educational Policy.

COMMITTEE ON EDUCATIONAL POLICY

International Education

Presentation By

Loren J. Blanchard
Executive Vice Chancellor
Academic and Student Affairs

Leo Van Cleve
Assistant Vice Chancellor
International Programs and Summer Arts

Summary

The California State University (CSU) has a strong history of engagement in international education. The Board of Trustees was instrumental in the establishment of the systemwide International Programs in 1963, which continues to this day. In the years since, the CSU has remained active in the international arena as international education has evolved and expanded.

Early on, the primary focus was on the movement of students – international students coming to the CSU, usually to pursue a degree, and CSU students going abroad for a period of study. Today, international education encompasses nearly all facets of the university. Opportunities for CSU students to complement and enhance their degree with study abroad remains a key element. Similarly, international students coming to the CSU to earn a degree enhances campuses and classrooms, providing rich diversity of experience and knowledge. Additionally, international collaboration provides an opportunity for students and faculty to work with colleagues globally to solve the world's most pressing problems. International alumni engage with – and support – campuses and the system. And finally, international faculty development opportunities enable faculty to bring not only their disciplinary expertise but also a global perspective to their research and their courses.

This item will provide a brief background on international education in the CSU and highlight several examples of programs that benefit students, faculty and the university.

Study Abroad

Study abroad presents CSU students with the opportunity to see and interact first hand with the world around them, to learn about other countries and cultures and to better understand the global environment.

High-Impact Practice

Based on research by George Kuh, study abroad is considered a high-impact practice, which refers to practices that have been widely tested and have been shown to be beneficial for college students from many backgrounds. For example, multiple large-scale studies have found that students who study abroad, especially students from historically underserved communities, are more likely to complete their degrees than students who did not participate in high-impact practices. Several studies have also shown that students who study abroad have a higher grade point average than similar students who stayed on campus, even when controlling for external factors. From polling CSU study abroad students, 99 percent felt that studying abroad helped them better understand their own strengths and weaknesses and 75 percent said their time studying abroad influenced their career path.

The benefits of study abroad continue after a student has graduated from college. 94 percent of returning CSU study abroad students included their experience on their resume, and 83 percent believe the skills acquired abroad helped their resume stand out. A separate study found that nearly two-thirds of employers believe international experience is important for recruitment. Additionally, 92 percent of employers are looking for transversal skills, such as curiosity, problem-solving, tolerance and confidence, all skills that students hone through studying abroad.

CSU Study Abroad Programs

Study abroad opportunities in the CSU take a variety of forms.

Faculty-led Study Abroad

Programs led by CSU faculty, teaching courses in their area of expertise, allow students to earn credits toward graduation while learning in a new environment. This is the most popular choice for CSU students. These programs are short-term study abroad options, typically 6 weeks or less, offered during a summer or winter session. Tuition is the same as for the CSU and financial support is available for qualifying students.

Campus Exchange Programs

Campus exchange programs are agreements between a CSU campus and an educational institution in another country. CSU students attend courses at the international university, which are credited toward their CSU degree, while students from that university travel to the CSU campus to learn. These programs may be offered as semester or yearlong. Tuition is the same as for the CSU and financial support is available for qualifying students.

Campus Partnerships

For these programs, campuses often partner with a third-party organization to offer study abroad programs to CSU students from one or more campuses. These for-credit programs may be offered as short-term, semester or yearlong. In some instances, tuition may be higher for students. Financial support is available for qualifying students.

CSU International Programs

This is the systemwide program that is operated by the Office of the Chancellor. Currently, CSU International Programs offers 62 programs in 18 countries. These for-credit programs are all year-long and tuition is the same as for the CSU. Financial support is available for qualifying students.

CSU International Programs include support services for students during their time abroad. In some cases, these are the services that partner institutions offer to support incoming students, usually in the case of exchange partnerships. In other instances, the CSU provides additional services to ensure that students are able to maximize their experience abroad, both academically and personally.

For example, in Ghana the CSU shares on-site administrative support services – including an on-site director – with the University of California Education Abroad Program. Each institution maintains an office and support staff. This support structure is critical to providing CSU students with the guidance necessary to navigate a significantly different academic and living environment. Students participate in an in-depth orientation that acquaints them with the university, the country and the cultural and historical traditions. Staff also provide continuing counsel and advice to deal with the different academic and pedagogical styles through the course of the year.

In Italy, CSU International Programs maintains a facility in Florence. Since 1966 students have participated in a program of instruction there that includes language, architecture, art history, history and classics, literature, political science and studio art. CSU programming also includes a partnership with the *Accademia di belle Arti* where CSU studio arts students work with Italian artists. Another highlight of the program is the architecture track, which brings 30 students majoring in architecture each year to Italy. These students learn Italian while studying their discipline in English. This program has long been among the most popular programs offered through CSU International Programs.

Enrollment Trends

In 2017-18, approximately 9,459 CSU students studied abroad, earning credit toward their CSU degrees. The data below illustrates the length of program these students participated in:

Short Term (less than a quarter):	6,340
Semester/Quarter:	2,674
Academic Year:	883
TOTAL:	9,897

The top 10 destination countries for these 9,459 CSU study abroad students were:

1. Spain
2. Italy
3. United Kingdom
4. Mexico
5. Germany
6. Costa Rica
7. China
8. France
9. Japan
10. Thailand

National Rankings

Each year, the Institute of International Education releases national data on study abroad through its *Open Doors* report. This report is a comprehensive information resource on international students and scholars studying or teaching at higher education institutions in the U.S., as well as U.S. students studying abroad for academic credit at their home colleges or universities.

In the most recent survey, seven CSU campuses were ranked in the top ten in one or more categories. Overall, San Diego State was ranked number eight in the nation for the number of students studying abroad. When the data are broken down by institutional type, CSU Long Beach and Cal Poly San Luis Obispo ranked fourth and seventh respectively.

The data are also presented by program duration. In this instance, San Diego State and CSU Long Beach rank seventh and fourth for short-term programs, while Cal Poly San Luis Obispo is ranked third for semester/quarter programs. In the category of long duration (academic year) six CSU institutions ranked in the top ten in their category: San Francisco, Chico, San Luis Obispo, Sonoma, Monterey Bay and Long Beach International Students.

International students enrolled at the CSU are integral to campus' efforts to provide a diverse and robust learning experience. Their presence on campus and in the classroom allows CSU students the opportunity to learn and work collaboratively in an international environment while remaining in California.

Degree-seeking international students are not a part of the CSU's state-funded enrollment target and are not supported by state funding. Instead, they pay a non-resident fee (to cover the full cost of education) in addition to the regular tuition fee and campus-based fees. This additional funding allows campuses to add sections and services that benefit all students.

Enrollment Trends

Over the past five years, the number of visa students attending the CSU has remained fairly steady.

Year	Number of Visa Students	Total CSU Enrollment	Percent of Total Enrollment
2013	15,949	446,530	3.6%
2014	19,567	460,200	4.3%
2015	21,436	474,571	4.5%
2016	20,572	478,638	4.3%
2017	19,351	484,297	4.0%

The chart below provides a breakdown of visa student enrollment over the past five years by undergraduate and graduate.

Year	Undergraduate Visa Students	Graduate Visa Students	Total
2013	10,879	5,070	15,949
2014	12,130	7,437	19,567
2015	13,235	8,201	21,436
2016	13,551	7,021	20,572
2017	13,577	5,774	19,351

In fall 2017, the two source countries that sent the largest number of international students to the CSU were China and India, sending 4,091 and 4,071 students respectively. This is consistent with national trends.

Top Source Countries to the CSU (Fall 2017)	Top Source Countries Nationwide (2016-17)
China	China
India	India
Saudi Arabia	South Korea
Kuwait	Saudi Arabia
Vietnam	Canada
South Korea	Vietnam
Japan	Taiwan
Taiwan	Japan
Germany	Mexico
Malaysia	Brazil

International Collaborations

At both the campus and system level, the CSU engages in international collaborations, many of which receive outside funding support. These provide opportunities for faculty and students to engage in research, training and service opportunities around the world, while building strong connections and developing a more global perspective. Several examples are included below.

Germany

The CSU has maintained a “state-to-state” relationship with the German state of Baden-Württemberg for 23 years. This partnership has facilitated the flow of more than 3,000 students in both directions. It has also allowed the CSU to engage in jointly-funded collaboration among faculty.

This year, a delegation led by the Minister President from Baden-Württemberg will be attending the Global Climate Action Summit in San Francisco, hosted by Governor Brown. The German delegation will be presenting two sessions. Following the summit, members of the German delegation will join CSU colleagues at San José State University to share and discuss climate change research.

Georgia

San Diego State University received funding from the U.S. Millennium Challenge Corporation to establish a program in Tbilisi, Georgia. Through this program, students earn a U.S. bachelor's degree while studying in Georgia. San Diego State cooperates with three Georgian universities, Georgian Technical University, Ilia State University and Tbilisi State University.

These U.S.-style programs include a well-rounded liberal arts education, featuring Western Association of Schools and Colleges (WASC) accreditation and Accreditation Board for Engineering and Technology (ABET) or American Chemical Society (ACS) accreditation. The programs focus on developing students' knowledge and critical thinking skills to help them succeed in a STEM career locally, regionally or internationally. Programs offered by the university support the development of construction, science and technology fields, as well as Georgia's human capital capacity for economic growth.

Egypt

U.S. educators, with primary roles played by CSU Fresno, CSU Bakersfield, and Cal Poly San Luis Obispo, are working with Egyptian counterparts to design and implement an integrated STEM curriculum that addresses Egypt's challenges, including disease prevention, water use and traffic congestion. The goal is to produce a STEM workforce and future STEM leaders who can further the public good in their nation. The U.S. teacher education partners, led by CSU campuses, will provide the technical assistance needed for the Ministry of Egypt to design the integrated, project-based curriculum; to train teachers in inquiry pedagogy and laboratory experiments; and to create an entirely new assessment system. Included in the program is a focus on the inclusion and success of females in Egyptian STEM high schools.

This program will also create exchange opportunities for U.S. students and faculty to study in Egypt, helping to develop the next generation of international leaders from the CSU.

International Alumni

The CSU has more than 100,000 alumni living and working abroad. These alumni are spread across the world. CSU campuses conduct outreach to these alumni and build global networks to support their work in a variety of ways. International alumni have been instrumental in helping to share their CSU story with students and others who are interested in the university. They provide internships, work with other students and alumni to build careers and support the CSU mission in a variety of ways.

Faculty Development

CSU faculty are critical to building a learning environment that prepares CSU students for careers in the global economy. Therefore, it is essential that they have opportunities to collaborate and engage internationally. CSU International Programs has initiated a series of seminars for faculty. These seminars provide opportunities to deepen faculty understanding of the location, meet colleagues from partner universities, collaborate with experts, engage in scholarly discussion of key topics and see first-hand the CSU's international programs.

This year the CSU co-sponsored a professional development seminar with the University of Ghana. Twenty-one CSU faculty from 16 campuses participated in a week-long seminar with the theme of "Ghana Calls." Presentations and discussions focused on five key areas:

- Economics, Development and Governance
- African Diaspora
- Teaching Africa
- African Art, Image and Literature
- Africa and the United States

The presentation areas were chosen to provide opportunities for faculty from a broad range of disciplines to be included. The Ghana seminar included representatives from animal and veterinary science, business, communications, engineering, nursing, public health, social work as well as from Africana Studies, anthropology, art history, history, international studies, literature and theater, dance and film. This broad mix allowed for discussions from a wide variety of perspectives that enhanced the seminar and encouraged a broader understanding of the themes.

Conclusion

The CSU's robust international education offerings support the university's mission to provide a high-quality learning environment for students and faculty. Students studying abroad taking courses that count toward their degrees – and faculty engaged in international collaborations or professional development – gain a global perspective and critical knowledge and skills that will benefit them in their future endeavors. International students contribute to the CSU's diversity, sharing their unique backgrounds and experiences with their classmates. And international alumni continue to support the CSU, enabling campuses to offer additional opportunities to students. Taken together, international education in the CSU benefits not only students and faculty, but the institutions, California and the world.

COMMITTEE ON EDUCATIONAL POLICY

Research, Scholarship and Creative Activities

Presentation By

Ganesh Raman
Assistant Vice Chancellor
Research

Josue Duque
Student
California State University, Monterey Bay

Craig Clements
Associate Professor, Meteorology and Climate Science
San José State University

Background

Research, scholarship and creative activities are essential components of the California State University. Through these activities, the CSU advances student success, enhances faculty excellence, and – through applied research – addresses the pressing needs facing California and beyond.

As the CSU works toward achieving the Graduation Initiative 2025 goals of reducing time to degree, increasing graduation rates and closing equity gaps, research, scholarship and creative activities are “high-impact practices” that help achieve these goals. The CSU is distinctive in California for utilizing this high-impact practice with undergraduate students in a unique faculty scholar model in which students work with faculty on meaningful, rigorous and innovative directed research and creative projects. It helps foster the skills, knowledge and networks needed to be prepared for future graduate and professional study, as well as future careers, giving our students the edge when applying in competitive fields.

These activities help attract and retain outstanding faculty, ensuring that students are learning from experts in their field. Students receive a cutting-edge education by connecting discovery to classroom learning in real time, while developing a comfort with ambiguity. As is evident in the examples that follow, research provides significant interactions between faculty and students, fostering mentorships and resulting in enhanced retention rates. This is particularly critical for students from historically underserved communities. A number of CSU campuses pursue external funding grants specifically aimed at engaging and retaining underrepresented students in scientific

and technical fields. And research, scholarship and creative activities enable students to explore career opportunities, assisting with workforce preparation.

These activities also drive faculty excellence. The opportunity to participate in cutting-edge research, for example, attracts excellent faculty and sustains their engagement. It creates new knowledge and experiences across all academic disciplines, advancing fields and keeping curricula at the forefront. These activities also provide opportunities for faculty to be leaders in their field, through peer-reviewed awards, journal publications, presentations and performances.

And finally, research, scholarship and creative activities in the CSU are advancing California's most pressing needs. From agriculture, biotechnology and environmental ecology to palliative care and social science, faculty experts and students are conducting research that impacts all of California and beyond.

External Funding Accomplishments

Several of the most prestigious grants and contracts received by CSU faculty during the 2017-18 academic year are included below.

National Science Foundation CAREER Award

The National Science Foundation (NSF) Faculty Early Career Development Program award – or CAREER award – is the foundation's most prestigious award in support of early-career faculty who have the potential to serve as academic role models in research and education. Six CSU faculty members received this award in 2017-18:

- Coleen Carrigan, assistant professor, Social Sciences Department, Cal Poly San Luis Obispo: \$570,890 to study the underrepresentation of minorities and women in engineering and computer science careers
- Nina Robson, assistant professor, Department of Mechanical Engineering, CSU Fullerton: \$500,000 to advance the design of next-generation robotic systems
- Scott Roy, assistant professor, Department of Biology, San Francisco State: \$251,175 to analyze the genetic material of 300 species to better understand “junk” DNA
- Andrea Swei, assistant professor, Department of Biology, San Francisco State: \$309,423 to study host species to better understand tick abundance and prevalence
- Stephanie Wissel, assistant professor, Physics Department, Cal Poly San Luis Obispo: \$669,371 to test a new detector for high-energy neutrinos
- Xiaorong Zhang, assistant professor, School of Engineering, San Francisco State: \$441,501 to develop computer systems to improve prosthetic technology

National Science Foundation Robert Noyce Teacher Scholarship Program Award

The NSF Robert Noyce Teacher Scholarship award seeks to encourage talented science, technology, engineering and mathematics – STEM – majors and professionals to become K-12 mathematics and science teachers. Seven CSU campuses received this award in 2017-18:

- CSU Chico (Oloff-Lewis, Stephens, Aranguren, Matthews): \$701,438
- San Diego State (Nickerson, Philipp, Bowers): \$623,763
- San Francisco State (Horvath, Seashore, Hoellwarth, Hsu, Ross, Keller): \$3,299,995
- Cal Poly San Luis Obispo (Vokos, Jensen): \$865,540
- CSU San Marcos (Chen, Jasien, De Leone, Holt): \$842,267
- Stanislaus State (Johannsdottir, Fleming, Flores, Andrews): \$745,997

National Science Foundation Hispanic-Serving Institution Award

The NSF Hispanic-Serving Institution (HSI) award is new for 2017-18. This award aims to increase retention and graduation rates for STEM students attending HSIs. Only 31 awards were distributed nationally, with the CSU receiving six:

- CSU Fullerton (Kurwadkar, Bein, Huang, Linton, Mayoral): \$1,496,967
- Cal Poly Pomona (Beardsley, Shih, Caine, Seyranian, Bhavsar): \$1,479,959
- CSU Northridge (Serrano, Cooper, Desmond, Juarez, Torres): \$2,633,530
- Sacramento State (Tashiro, McCarthy-Hintz, Xu): \$1,500,000
- San Diego State (Herrera, Villarreal): \$1,483,589
- Stanislaus State (Cover, To, Harven, Bissonnette, Montero-Hernandez): \$1,462,263

National Institute of Health Research Project Grant Program

The National Institute of Health (NIH) Research Project Grant Program provides support for health-related research and development based on the mission of the NIH. In 2017-18, Dr. Emma Sanchez-Vauznaugh, an associate professor in the Department of Health Education at San Francisco State, received a \$3,263,856 grant under this program to study how federal and state nutrition policies and community environments affect childhood health.

National Institute of Health MERIT Award

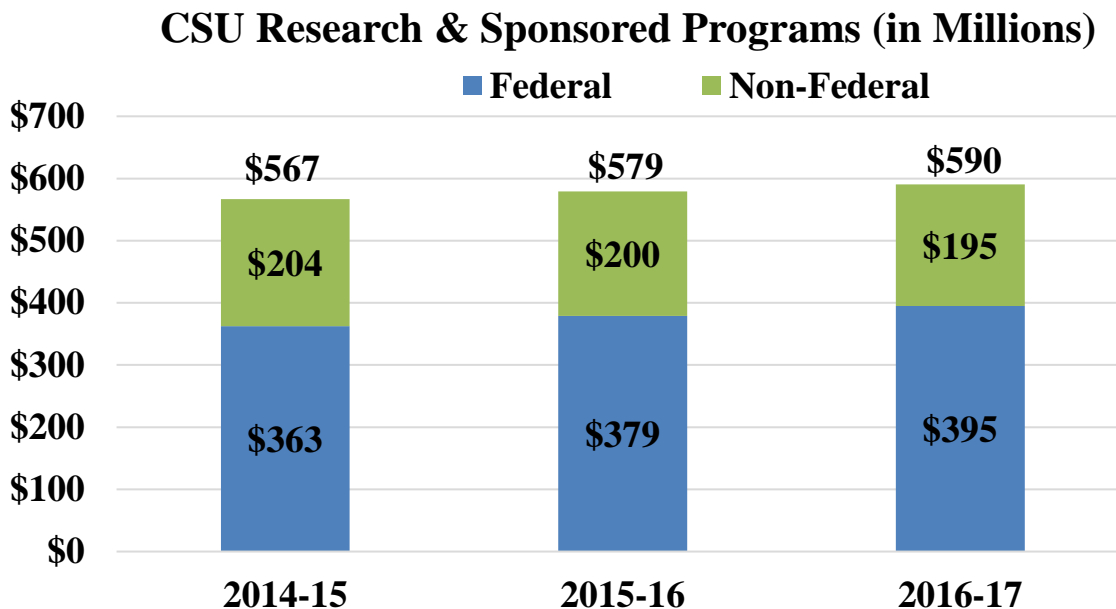
The NIH Method to Extend Research in Time – or MERIT – award aims to provide stable long-term grant support to individuals whose research skills and productivity are “distinctly superior” and who are highly likely to continue to perform in an outstanding manner.

In 2017-18, four San Diego State University faculty members received this award:

- Jennifer Thomas, professor, Department of Psychology: \$1,700,000 to study how choline affects the development of children born with fetal alcohol syndrome
- Sanford Bernstein, professor, Department of Biology: \$2,488,888 to study the impact of myosin on muscle function in fruit flies
- Phillip Holcomb, professor, Department of Psychology: \$1,375,000 to study neuro-cognitive mechanisms in visual and spoken word comprehension
- Mark Sussman, professor, Department of Biology: \$2,500,000 to study the molecular and cellular basis of heart failure

External Funding

As demonstrated in the chart below, total external funding – grant and contract revenue – for CSU research and sponsored programs has increased steadily over the past several years. In 2016-17, the most recent year for which data are available, the total amount was \$590 million. This is an increase from the previous year’s \$579 million in external funding.



Unlike state funds that are used exclusively for basic university operations, faculty compete for these external funds, which are used for innovative projects that benefit local communities and prepare students for 21st century careers.

These external funds include approximately \$72 million to cover institutional overhead, also known as indirect costs. Programs in research, scholarship and creative activities have associated infrastructure expenses that are recovered with indirect costs budgeted into the application for external funding.

Research in the CSU

Examples of faculty-led and student-led research can be found at all 23 CSU campuses. This research focuses on addressing the needs facing local communities, California, the nation and the world. Some examples are included below.

California State Polytechnic University, Pomona

The Asian citrus psyllid is an invasive insect that can transmit a deadly bacteria, which is fatal to citrus trees. As such, these insects threaten California's \$2 billion citrus crop. Dr. Valerie Mellano and Dr. Anna Soper with the Plant Science Department at Cal Poly Pomona are engaging students in researching the most effective ways to raise *Tamarixia radiata*, a natural predator of the Asian citrus psyllid, to advance efforts to lower populations of the psyllid through biological control. Already, almost 100 students have participated in research projects related to the Asian citrus psyllid. Fourteen of those students are now in graduate school, with many continuing to conduct related research.

San Francisco State University

Dr. Emma Sanchez-Vaznaugh, an associate professor in the Department of Health Education at San Francisco State, is leading a team to investigate whether federal and state nutrition policies – which attempt to improve school nutrition standards and reduce childhood obesity – are effective across different racial/ethnic populations. The study is also evaluating whether the policies are more effective when children attend school in neighborhoods with healthier food options than in neighborhoods with more fast food options.

California State University, Dominguez Hills

Dr. Patrick Still, an assistant professor of chemistry and biochemistry at CSU Dominguez Hills, is conducting research on plant extracts using the campus' Nuclear Magnetic Resonance Facility. The purpose of the research is to identify a new compound structure from the plant extracts that can be used in synthetic lead optimization studies, an important first step in clinical cancer drug development. Dr. Still's ultimate goal is to find a novel lead compound that could be developed into a drug for treatment of cancer.

California State University, Sacramento

As a result of an NSF grant, Sacramento State faculty and students – led by Dr. Joshua Moss – are among the participants conducting cutting-edge experiments in particle physics using the Large Hadron Collider in Switzerland. Researchers observe each proton collision and the aftermath to shed light on the mysteries of matter and the forces that hold it together. Sacramento State is the sole undergraduate-only U.S. participant in the collaboration.

Scholarship and Creative Activities in the CSU

Faculty scholarship benefits students, particularly as faculty weave their research into curricula and include students in the research and scholarship process. From 2013-18, CSU faculty authored 37,570 journal publications, the majority of which included student coauthors.

Creative activities are subject to discipline-specific standards for judging academic excellence. Faculty artistic contributions undergo peer evaluation, can qualify for funding from nationally competitive grants, may be included in scholarly conferences and journals and may be judged by specific criteria for tenure and promotion.

For example, under the direction of Dr. Steve Arounsack, an associate professor at Stanislaus State, 12 students created individual documentaries in the campus' Keck Lab. The documentaries explore how Asian Americans in the Central Valley are using art to reveal their legacy as immigrants and to reshape tied narratives. The final product, *Halfway Home: Asian American Art in the Central Valley* received a documentary fund award by the Center for Asian American Media.

Another example is Dr. Pamela Madsen, a CSU Fullerton professor and composer-in-residence at the Desert Studies Center. She received an award from the National Endowment of the Arts to develop a 5-movement Oratorio. Dr. Madsen's undergraduate students worked by her side to record the sounds of the Mojave and pair them with images. The final compositions have been performed at several venues and serve as a model for students participating in CSU Fullerton InterArts Collaborative Projects Symposium.

Systemwide Collaborations

Collaborative research leads to advancement in the disciplines, innovation and an improved academic environment for students and faculty. The CSU has a number of multi-campus partnerships, bringing together researchers from across the 23 campuses to share expertise, initiatives and facilities. Their joint efforts result in scholarly publications and advancements in practice, technology and knowledge.

Affinity Groups

The CSU has nine centers that span multiple campuses. These affinity groups conduct research on a breadth of topics.

Agricultural Research Institute

The Agricultural Research Institute (ARI) supports and funds applied agriculture and natural resource research within the CSU, which improves the economic efficiency and sustainability of California agriculture. Additionally, ARI is helping develop a highly-trained professional workforce for California agricultural and natural resource industries through student participation in research projects.

Six campuses comprise ARI: Chico, Fresno, Humboldt, Monterey Bay, Pomona and San Luis Obispo. ARI faculty work on projects that will provide growers information on how to produce crops with lower-quality water and use remote sensing to more precisely manage water and fertilizers to produce a crop. They are addressing problems of importance to the California agricultural economy; 12 of the 15 top commodities in the state are the focus of ARI projects.

Students are the backbone of the research conducted by the ARI. In 2016-17, students were involved in 86 percent of ARI-funded projects. For example, German Fuentes, an undergraduate student at Chico State majoring in concrete industry management, is involved in ARI-funded research that focuses on developing and testing structural building products. This research allowed Mr. Fuentes to think about science and engineering concepts and how they may be integrated into practice. He has used the practical applications of his research as an intern at one of the largest independent suppliers of aggregate, concrete and hot mix asphalt in the country.

Council on Ocean Affairs, Science and Technology

The CSU Council on Ocean Affairs, Science & Technology (COAST) is the umbrella organization for marine, coastal and coastal watershed-related activities within the CSU. COAST promotes research and education to advance knowledge of marine and coastal resources and the processes that affect them. COAST also shares scientific information with stakeholders for informed decision-making and the development of responsible policy across California.

COAST faculty members and students work in marine and coastal settings throughout California, along the west coast of the U.S. and internationally. For example, Jordan Ashby, a student at Sonoma State, received a 2017-18 Undergraduate Student Research Support Program Award to study immune responses in breeding adult male elephant seals alongside his faculty advisor, Dr. Dan Crocker.

In addition to the opportunity to participate in research alongside faculty experts, COAST offers a number of activities for students to grow academically and professionally, including conferences, classes and internship support. In summer 2018, COAST interns were placed in a variety of locations including Long Beach for dolphin-safe tuna tracking and Oakland to work on climate change and ocean acidification.

CSU Program for Education and Research in Biotechnology

The CSU Program for Education and Research in Biotechnology (CSUPERB) mission is to develop a professional biotechnology workforce by catalyzing and supporting collaborative CSU student and faculty research, innovating educational practices and partnering with the life science industry. CSUPERB faculty are committed to ensuring that all CSU biotechnology students have access to an education that integrates experiential learning, especially team-based research or entrepreneurial projects.

For example, Analine Aguayo is an undergraduate biology student at CSU Northridge. Recognizing the importance of advancing breast cancer research, she joined a project in Dr. Jonathan Kelber's Developmental Oncogene Lab and focused her research on gaining a better understanding of how metastasis occurs by studying how the migrating tumor cells adapt to new environments. Dr. Kelber encouraged Ms. Aguayo to apply for a Doris A. Howell Foundation for Women's Health Research-CSUPERB scholarship. She was selected and had the opportunity to present her research at the 30th annual CSU Biotechnology Symposium.

California Desert Studies Consortium

The CSU Desert Studies Consortium is a collection of seven campuses – Dominguez Hills, Fullerton, Los Angeles, Long Beach, Pomona and San Bernardino – that operate the CSU Desert Studies Center (DSC), located in the Mojave National Preserve. Nearly four decades old, the DSC continues to serve as a premier location and resource for research and education in the geology, hydrology, and biology – among other areas – of California's desert and the American West.

The Desert Studies Center provides opportunities for CSU students, faculty and staff to engage in unique research projects and develop deep connections between the harsh Mojave Desert environment and the people of California. For example, Dr. Rulon Clark from San Diego State has undertaken research at the DSC on predator-prey interactions between small mammals and rattlesnakes. In total, 16 undergraduate students and four graduate students have been involved in this project, which is funded by a \$390,000 National Science Foundation grant.

CSU Institute for Palliative Care

The need for palliative care and palliative care training is growing, largely due to increases in chronic and serious conditions and the aging population's desire for quality of life. However, without more trained professionals to deliver palliative care, California will struggle to meet these needs.

The CSU Institute for Palliative Care, located at CSU San Marcos, is an affinity group that also includes CSU campuses at East Bay, Fresno, Fullerton, Long Beach, Los Angeles, Monterey Bay and San Francisco. The institute leverages the strength of the CSU's workforce development infrastructure to deliver evidence-based online and in-person learning to current and future palliative care professionals. Additionally, the institute provides seed grants to support projects that advance palliative care education and research with a focus on seniors or family caregivers of seniors.

Moss Landing Marine Laboratories

Moss Landing Marine Laboratories (MLML) administers the Master of Science in marine science program for CSU campuses in northern and central California, and is dedicated to the pursuit of excellence in both education and research. An outfitted marine operations department, research diving program and state of the art equipment allow for research in a variety of disciplines including: marine ecology, oceanography and marine geology, chemistry and biogeochemistry. MLML is known for a hands-on, field-oriented approach that places students, faculty, researchers and staff at the forefront of marine science worldwide.

For example, Angela Zepp completed her undergraduate studies at Humboldt State and is currently studying at MLML's Geological Oceanography Lab. Ms. Zepp is now working with faculty experts to inspect the intake pipes in the San Francisco Bay, to determine if the pipes are sinking below the sediment or if the sediment is accumulating over them, blocking the water supply.

Ocean Studies Institute

The Ocean Studies Institute is comprised of nine CSU campuses: Channel Islands, Dominguez Hills, Fullerton, Long Beach, Los Angeles, Northridge, Pomona, San Bernardino and San Marcos. Based out of the Los Angeles Harbor, this consortium focuses on urban ocean and coastal sciences.

One of the largest programs offered through the Ocean Studies Institute is a semester-long program on Santa Catalina Island. This program provides an intensive undergraduate exposure to marine biology, and is designed for students with a serious commitment to environmental and marine science. Students are introduced to a sequence of courses that prepare them to complete a directed research study on a topic of their choice. All courses provide a strong element of hands-on field experience, providing comprehensive training that helps students with career choices and graduate decisions.

Social Science Research and Instructional Council

The CSU Social Science Research and Instructional Center provides support for CSU student, faculty and staff users of subscription databases. The center offers workshops on how best to use social science data, provides research and training opportunities and operates an annual student symposium that is open to undergraduate and graduate students at the CSU and to students at California community colleges.

Water Resources and Policy Initiatives (WRPI)

Founded in 2008, this systemwide resource is changing the way California manages water. It is composed of more than 250 water experts from all 23 campuses across the CSU and is focused on developing water management solutions through research, partnerships, education and training, while providing students directed research opportunities.

Through WRPI, the CSU has developed internship programs with the U.S. Department of Agriculture and the Environmental Protection Agency so that students can enter the workforce ready to develop solutions for business, government and the public. Additionally, WRPI also commercializes new ideas and services in water industries – such as innovations from Fresno State’s Center for Irrigation Technology – that are making irrigation more efficient than ever.

Climate Change Research Community

In July 2018, a climate change research community was launched to pursue answers to California’s climate change issues and external funding for further research. More than 150 CSU researchers from 22 campuses registered for the community. During a live webcast that corresponded with the launch of the community, 20 CSU faculty – representing a variety of disciplines – briefly shared their research.

Mellon Mays Undergraduate Fellowship Program

A five-campus CSU Consortium – consisting of CSU Dominguez Hills, CSU Fullerton, CSU Long Beach, CSU Los Angeles and CSU San Bernardino – are establishing a Mellon Mays Undergraduate Fellowship program. With \$2.2 million from the Andrew W. Mellon Foundation, the five campuses will provide academic opportunities and financial support to underrepresented, first generation and low-income students who will pursue a Ph.D. in the humanities following the completion of their undergraduate degrees.

Opportunity for Skills Development

To help faculty learn new skills, hone existing ones and share best practices across the system, the Office of the Chancellor provides a number of professional development opportunities.

In early 2018, the Office of the Chancellor partnered with campus mentors and an external consultant to provide mentoring and proposal review for 60 grant applications from 22 campuses and three affinity groups. The grant applications included a multi-campus \$4 million proposal on climate change and three proposals for a total of \$60 million for student training in the biomedical fields. Overall, both faculty participants and campus mentors found the mentoring program to be beneficial.

Conclusion

CSU research, scholarship and creative activities contribute to the intellectual and creative vibrancy of campus life while offering solutions to real-world problems. As a high-impact practice, these activities are critical to the success of Graduation Initiative 2025 and to fulfilling the CSU mission of student success, faculty excellence and service to California and beyond.

COMMITTEE ON EDUCATIONAL POLICY

Graduation Initiative 2025

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Summary

Graduation Initiative 2025 is the California State University's (CSU) signature effort aimed at increasing degree completion rates and eliminating equity gaps, thereby supporting student success and meeting the future workforce needs of California. As the initiative enters its third year, this information item provides a review of the work to date, including the goals, operational priorities, policy changes and investments in student success. It also reviews the progress made thus far in student completion rates and securing philanthropic support for the initiative. Finally, this information item provides a preview of the work facing the CSU in the upcoming year.

Graduation Initiative 2025 Goals

At the September 2016 Board of Trustees meeting, the board heard a detailed report on Graduation Initiative 2025 and voted to approve the CSU's ambitious student completion and equity targets. The approved targets are:

- A 40 percent 4-year freshman graduation rate goal;
- A 70 percent 6-year freshman graduation rate goal;
- A 45 percent 2-year transfer graduation rate goal;

- An 85 percent 4-year transfer graduation rate goal;
- The elimination of achievement gaps throughout the CSU; and,
- The elimination of opportunity gaps (the gaps that exist between Pell-eligible students and their peers) throughout the CSU.

These system targets are extremely ambitious and, when attained, will place CSU campuses among the very top of comparable institutions across the nation. Nationally, virtually no institutions with profiles comparable to the CSU campuses (funding level, student preparation and diversity) have attained graduation rates at a level consistent with the CSU's new targets. Indeed, attainment of these goals – with the CSU's vibrantly diverse student population – will set new, unprecedented national standards for student success and timely degree attainment.

Operational Priorities

At the January 2017 Board of Trustees meeting, Chancellor White outlined five priority areas where focus is needed to achieve the Graduation Initiative 2025 goals: academic preparation, enrollment management, financial aid, data-driven decision making and administrative barriers. Based on feedback received from campus constituents, “student engagement and well-being” was added as a sixth focus area.

The following represents the CSU's aspirational goals with respect to each of these areas of focus:

- **Academic preparation:** We will provide CSU students, including those who arrive academically underprepared, the opportunity and support needed to complete 30 college-level semester units – 45 quarter units – before beginning their second academic year.
- **Enrollment management:** We will ensure students are able to enroll in the courses they need, when they need them.
- **Student engagement and well-being:** We will continue to address the well-being of all CSU students while fostering a strong sense of belongingness on campus.
- **Financial support:** We will ensure that financial need does not impede student success.
- **Data-driven decision making:** We will use evidence and data to identify and advance the most successful academic support programs.
- **Administrative barriers:** We will identify and remove unnecessary administrative impediments.

Investments in Student Success

Campus investments in Graduation Initiative 2025 are categorized into three broad areas that aim to support student success, improve graduation rates for all students, and close achievement gaps.

- Hiring additional tenure-track faculty and offering more course sections
- Hiring new advisors
- Investing in student and academic support programs

At the close of the fall 2017 term, CSU campuses reported on these areas with total new investments of more than \$88 million. Campuses reprioritized existing budgets, and with the addition of \$75 million in new tuition revenue for the 2017-18 fiscal year, were able to achieve the goals endorsed by the board to recruit and hire new tenure track faculty, offer 3,000 additional course sections, add academic advisors and invest in programs specific to reducing time to degree and closing the achievement gap.

Aided by this funding, campuses developed and refined academic and student support programs to ensure that they are meeting the changing needs of their unique student populations. While not an exhaustive list, examples of campus investments in support programs include:

- **Academic Support** – Campuses invested in supplemental instruction programs that provide students with additional academic support in courses with the highest percentage of non-passing grades. These investments were predominately made in support of science and mathematics courses.
- **Retention Efforts** – Campuses invested in mentoring and services aimed specifically at supporting students from historically underserved communities to cultivate a sense of belonging and to address success, persistence and graduation rates. Campuses also invested in similar programs supporting foster youth, off-campus students and other vulnerable student populations.
- **Financial Support** – Campuses provided incentives for seniors who were close to graduation to enroll in courses during intersession, winter session or summer session. This financial support enables students to complete their degree on time, when they otherwise would have been delayed and had to pay tuition for an additional term.
- **Technology** – Campuses launched the *EAB Student Success Collaborative*, a resource that centralizes student advisement records, uses predictive modeling to identify potential impediments to student success and offers services through which advisors can identify and communicate with students who are at risk of falling behind.

Policy Changes

In August 2017, the CSU enacted changes to systemwide policy ([Executive Order 1110](#)) intended to significantly improve how the CSU serves students. The policy: a) revised the assessment protocols used to determine college readiness and course placement in the first year; b) strengthened the Early Start Program to offer students college credit in the summer before their first term; and c) reformed the CSU's approach to developmental education (i.e. transitioning from non-credit-bearing prerequisite courses to college-level, credit-bearing courses with academic support).

Improving Assessment of College Readiness

Executive Order 1110 improves assessment and the determination of readiness for incoming students. The policy calls for lessening the reliance on standardized placement exams and, instead, incorporating high school grades, courses and grade point average for all new students. High school grades, when used as one of multiple measures of assessment, are shown to be a stronger predictor of how likely students are to achieve course outcomes over an academic term. Placing a greater emphasis on previous classroom performance is expected to improve student assessment and help customize academic support.

Strengthening the Early Start Program

Students who were identified by the CSU assessment protocol as underprepared academically were required to participate in the CSU Early Start Program in the summer immediately preceding their first term. This traditional one-unit experience was designed to allow students to get a head start on the developmental education sequence they were required to take; however, Early Start Program units did not count toward a degree.

Effective summer 2019, students assigned to the Early Start Program will be placed in college-level, credit-bearing courses with academic support attached to – or embedded in – the course. This will provide intensive summer experiences that build academic skills while allowing students to earn college credit if they successfully complete the course. College credit earned in any CSU Early Start Program will be recognized by (and transferable to) any other CSU campus.

Several campuses piloted courses in summer 2018 that meet the summer 2019 standard.

Restructuring Developmental Education

Effective fall 2018, the CSU no longer requires students to take non-credit-bearing prerequisite courses before enrolling in college-level, credit-bearing courses. These prerequisites have historically been referred to as remedial or developmental education courses.

Moving beyond the traditional model of prerequisite, non-credit-bearing developmental education courses, the CSU is supporting faculty to design entry-level college courses with appropriate support structures. Throughout the 2017-18 academic year, faculty and campus leaders across the CSU redesigned college-level courses to serve students more effectively. Students who need additional academic support – as identified by the revised assessment policy described above – will receive support while taking a college-level, credit-bearing general education course.

Early Indicators of Progress

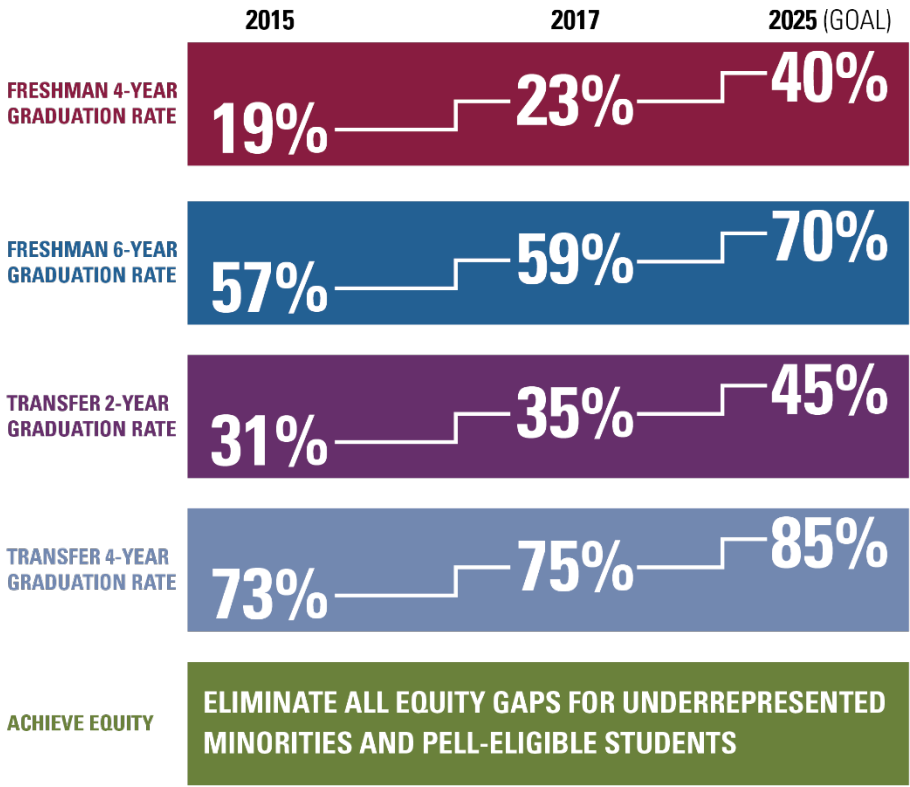
For the past year, CSU faculty, staff and administrators have worked diligently to redesign courses and prepare for the fall 2018 implementation deadline. As a result of these efforts, CSU students are enrolled in newly-designed mathematics and English courses, which replace stand-alone developmental education prerequisites.

As this is year one of implementation, it is too early to measure the impact of these policy changes. However, there are several positive examples from campuses that indicate the new policies are having the desired impact.

Systemwide Progress Snapshot

Meeting the student success goals of Graduation Initiative 2025 requires the CSU to consistently measure progress. In November 2017, staff presented a progress report to the board. The data indicate that the CSU is making good progress toward its goals but must continue to focus on closing equity gaps.

In the 2016-17 academic year, nearly 99,000 CSU students earned their baccalaureate degree. This represents a record high for the CSU, with nearly 7,000 additional students crossing the commencement stage compared to the previous year. The systemwide graduation rates are shown below, along with the 2015 benchmarking rates and the 2025 goal rates for reference:



Final graduation rate data reflecting degrees earned through summer 2018 are not yet available. Preliminary rates for the latest cohorts will be presented at the Graduation Initiative 2025 Symposium in October 2018, and final data will be shared at the November board meeting. While it is important to note that progress toward Graduation Initiative 2025 goals from year-to-year will not always be linear, early indicators of the most recent graduation rates appear to be positive.

Philanthropic Support

The CSU has also experienced success in attracting national attention and philanthropic support for Graduation Initiative 2025. This support is integral to the long-term success of the initiative, as it not only provides needed funding, but it also represents an endorsement of the CSU's student success efforts.

In addition to campus philanthropic efforts, the Office of the Chancellor has secured more than \$3 million in philanthropic support to support the Graduation Initiative from Lumina Foundation, The James Irvine Foundation, Stupski Foundation, Bill & Melinda Gates Foundation and College Futures Foundation. This funding is being used to support work already underway by:

- Supporting campuses working to redesign courses in accordance with recent policy changes;
- Establishing a systemwide Faculty Innovation and Leadership Award to highlight innovative practices and faculty leadership that promotes student success;
- Launching a Student Success Analytics Certificate program to support faculty-led research projects that use data to more effectively identify and address key factors that promote student achievement; and
- Establishing a rigorous evaluation program to assess the effectiveness of recent policy changes and the performance of alternative instructional practices.

2018-19 Areas of Focus

For the 2018-19 academic year – the third year of Graduation Initiative 2025 – there are several areas of focus from a systemwide perspective.

Underlying all initiative work is a concerted focus on closing persistent equity gaps in student success, retention and completion. Given the CSU's diverse student population, focusing on equity gaps helps ensure that the university achieves all six initiative goals.

Implementation and Evaluation of Recent Policy Changes

Supporting campus faculty and staff in implementing the recent policy changes is a top priority for the academic year. To that end, the Office of the Chancellor has developed a number of upcoming professional development opportunities.

To study the implementation of the policy changes, the Office of the Chancellor has partnered with [WestEd](#), a nonprofit research, development and services agency, to implement an evaluation plan. Consultation with CSU stakeholders to inform the design of the Implementation Studies Project (ISP) began in 2017.

The current ISP framework covers a three-year period. It consists of formative and summative studies that will inform the CSU about the pathways students take and the progress they make immediately after the implementation of Executive Order 1110. To the extent possible, the ISP will explore why these trends have occurred. It will also examine the variation of the models and instructional approaches adopted by campuses and analyze how these approaches perform for various student populations, including historically underserved students.

Workgroup Recommendations

The Office of the Chancellor created cross-representational advisory workgroups for each of the six priority areas of Graduation Initiative 2025 to provide implementation guidance. These workgroups include a mixture of faculty, students, alumni, campus administrators and external stakeholders.

Over the past year, all workgroups have met regularly. In August 2018, the workgroups provided the Chancellor's Office with a comprehensive set of recommendations. These recommendations will be compiled into a report and shared with the board in the future. In addition, many of these recommendations will advise the work ahead for campuses.

Fourth Year of Mathematics Requirement

Released in 2016, [the Quantitative Reasoning Task Force report](#) recommended requiring four years of high school quantitative reasoning for incoming students. This recommendation would allow entering CSU students to consistently develop their math skills to improve readiness for placement exams and college-level coursework.

In the upcoming year, the CSU will continue engagement with the California Department of Education, the University of California and several of the largest K-12 districts in the state on establishing this requirement. Understanding that some of California's most under-resourced school districts may need more time to prepare, the preliminary plan is to phase in the four years of mathematics requirement gradually to ensure that it does not have a negative impact on any students or K-12 schools.

Graduation Initiative 2025 Symposium

The 2018 Graduation Initiative 2025 Symposium will be held in San Diego, California on October 17-18. The symposium will engage national higher education leaders, practitioners and members of the CSU community in rich exchanges focused on improving degree completion.

At this year's symposium, main stage speakers include:

- **Timothy M. Renick, Ph.D.**, vice president, Enrollment Management and Student Success and vice provost and professor of religious studies at Georgia State University. In this capacity, he has overseen the fastest improving graduation rates in the nation and the elimination of all achievement gaps based on students' race, ethnicity or income level.
- **Jim Larimore**, chief officer for the ACT Center for Equity in Learning. He leads ACT's strategy to engage students, families, educators and communities to promote equity in learning and success.
- **Ryan J. Smith**, executive director of The Education Trust – West, a research and advocacy organization focused on educational justice and the high academic achievement of all California students, particularly those from historically underserved communities.
- **Jamienne S. Studley**, president of WASC Senior College and University Commission. Previously, she was deputy undersecretary of the U.S. Department of Education, where her focus included accreditation and accountability, campus climate issues and student success strategies.
- **Goldie Blumenstyk**, a senior writer with the *Chronicle of Higher Education*. She is a nationally-known expert on the business of higher education, for profit-colleges and innovation in and around academe.

For those unable to attend the Graduation Initiative 2025 Symposium in person, the event will be Livestreamed. Additional information on the symposium and Livestreaming will be available at calstate.edu/graduationinitiative.

Faculty Innovation and Leadership Awards

At the 2018 Graduation Initiative 2025 Symposium, the CSU will be honoring the recipients of the 2018 Faculty Innovation and Leadership Award. This inaugural award recognizes outstanding faculty who are implementing innovative practices and have demonstrated leadership in improving student success at the department, college or university level.

The award selection committee was led by CSU faculty and included representatives from the Office of the Chancellor. The committee reviewed more than 360 nominations. Ultimately, 26 awardees were chosen, which includes several team awardees.

Awardees receive a \$5,000 cash award and \$10,000 allocated to their academic department on their behalf. These funds will be used for professional activities related to their nominated work.

Conclusion

The CSU continues to work with intention toward achieving the goals of Graduation Initiative 2025. Entering the third year of the initiative, efforts underway – coupled with strategic investments in student success – have led to a number of positive indications that the university is on its way to achieving the initiative goals. It is imperative that Graduation Initiative 2025 remains a budget funding priority for the CSU to ensure continued momentum and an ever-improving experience for all CSU students.