

The Regents of the University of California

**ACADEMIC AND STUDENT AFFAIRS COMMITTEE**

March 20, 2024

The Academic and Student Affairs Committee met on the above date at the UCLA Luskin Conference Center, Los Angeles campus and by teleconference conducted in accordance with California Government Code §§ 11133.

Members present: Regents Anguiano, Batchlor, Hernandez, Park, Raznick, Sarris, and Tesfai; Ex officio member Leib; Advisory members Beharry, Salazar, and Steintrager; Chancellors Christ, Muñoz, Wilcox, and Yang; Staff Advisor Mackness

In attendance: Regents Reilly and Robinson, Assistant Secretary Bricker, Deputy General Counsel Drumm, Provost Newman, Vice President Brown, and Recording Secretary Li

The meeting convened at 4:00 p.m. with Committee Chair Park presiding.

**1. APPROVAL OF MINUTES OF PREVIOUS MEETING**

Upon motion duly made and seconded, the minutes of the meeting of January 24, 2024 were approved, Regents Anguiano, Batchlor, Hernandez, Park, Raznick, Sarris, and Tesfai voting “aye.”<sup>1</sup>

**2. MATHEMATICS PREPARATION FOR UC ADMISSION—PAST, PRESENT, AND FUTURE**

[Background material was provided to Regents in advance of the meeting, and a copy is on file in the Office of the Secretary and Chief of Staff.]

Faculty Representative Steintrager underscored the importance of establishing and maintaining an aligned California K–12 and University of California perspective on college preparation, which applied to the A–G requirements for admission into UC and the California State University (CSU). For over ten years, the A–G course criteria and the goals of the A–G requirements have been consistent with the goals underlying the State’s K–12 curriculum standards in multiple subject areas, including mathematics. Following the State’s adoption of the California Common Core State Standards in Mathematics (Common Core), the Academic Senate’s Board of Admissions and Relations with Schools (BOARS) issued multiple statements in 2013 and 2014 supporting the completion of at least three years of Common Core–aligned mathematics coursework to be best prepared for college-level study. In July 2023, the State Board of Education approved a revised K–12 mathematics curriculum framework that provided guidance on developing data science

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<sup>1</sup> Roll call vote required by the Bagley-Keene Open Meeting Act [Government Code §11123(b)(1)(D)] for all meetings held by teleconference.

courses. BOARS decided to review UC's mathematics course criteria and admissions requirements, and discussed whether data science and statistics courses approved in Area C sufficiently met UC's recommended fourth-year criteria and whether these courses should continue to satisfy third-year criteria through validation. A longstanding practice codified in Academic Senate regulations, validation allowed more advanced courses to fulfill a lower-level A–G requirement provided that the advanced course built upon knowledge gained in lower-level coursework. To determine the criteria for how mathematics courses may fulfill the Area C requirement, in fall 2023 BOARS convened the Workgroup on Mathematics (Area C) Preparation, which recently completed its Stage 1 deliberations and issued recommendations that BOARS has endorsed.

Ani Adhikari, Teaching Professor in the UC Berkeley Department of Statistics and Chair of the Area C Workgroup, stated that the Workgroup consisted of statistics, computer science, mathematics, and applied mathematics faculty from UC and CSU, some of whom developed and directed undergraduate data science programs. The Workgroup's charge had two stages. After Stage 1, which pertained to current UC policy and its implementation, was completed in December 2023, the Workgroup concluded that, according to Academic Senate regulations, courses that could validate lower-level mathematics coursework relied on the completion of an overwhelming majority of lower-level coursework. The Workgroup collaborated with the Director of A–G and Transfer Policy and with Undergraduate Admissions at the Office of the President (UCOP) on the details of implementation.

During Stage 1, the Workgroup also considered how data science courses fit within UC admissions requirements. Since there were no State or UC standards for what constitutes a high school data science course, the Workgroup did not take a position on data science courses in general. Instead, it examined the three most commonly used high school data science curricula, which were initially submitted and approved under the statistics discipline in Area C. In order to be approved, the curricula must include mathematics prerequisites and be designed for 11th and/or 12th grade levels. The Workgroup found that, while these curricula used some lower-level Area C content, they did not validate Algebra 2 according to Senate regulations. The three curricula focused on data literacy, but their mathematical level was not appropriate for fourth-year mathematics courses, unlike Advance Placement (AP) Statistics, which focused on probability, statistics, and data science at a level that was appropriate for the fourth year of mathematics study. The Workgroup believed that it was possible for high school data science curricula to be appropriate for the fourth year.

In Stage 2, which began recently and was due to be completed in May, the Workgroup would identify content that is appropriate for both introductory data science and fourth-year mathematics. The interplay between data science and mathematics would help strengthen the students' grasp of both fields. The Workgroup was tasked with examining what mathematics coursework would be necessary to prepare students for success at UC. The Workgroup planned to engage with the Intersegmental Committee of the Academic Senates (ICAS) Subcommittee on Mathematics Competencies and would continue to work with UCOP. The Workgroup was gathering data on applicants' mathematics preparation,

UC student outcomes, and other factors in order to make evidence-based conclusions. Ms. Adhikari did not expect the Workgroup's conclusions to have a major effect on UC admissions; the mathematics requirements were the same courses in algebra and geometry, and students were still encouraged to take more mathematics classes if they were available. Applicants to UC had diverse backgrounds and interests that require varying levels of mathematics, and many did not know their interests yet. She expressed hope that the Workgroup's Stage 2 report would provide clarity to all applicants.

Barbara Knowlton, Professor and Vice Chair for Undergraduate Studies at UCLA and Chair of BOARS, stated that BOARS focused on the extent to which the Workgroup's recommendations would benefit student preparedness for UC, whether the recommendations would clarify expectations for applicants, and the impact on student equity. BOARS supported the Workgroup's recommendation that only courses that rely on advanced algebra can validate Algebra 2 or Mathematics III. Given the importance of algebra in reasoning, symbolic thinking, and abstraction, a strong foundation in algebra prepared students for the broadest range of both science, technology, engineering, and mathematics (STEM) and non-STEM academic trajectories. Courses approved in the statistics discipline, including certain data science courses, would be recategorized within Area C, and Stage 2 recommendations would help inform this process. BOARS considered the possibility that students who took a statistics course instead of Algebra 2 or Mathematics III would not be prepared for quantitative work in college. The logical thinking practiced in algebra was foundational to complex mathematics such as calculus, statistics, and data science. Not taking advanced algebra in high school could severely limit students' academic pathways, as these skills could be difficult to gain once in college. BOARS acknowledged that the completion rates of Algebra 2 and Mathematics III were a source of concern and supported efforts to innovate how advanced algebra is taught. In BOARS' view, it was possible to improve algebra instruction without shortchanging academic preparation. BOARS also supported the Workgroup's second recommendation, which was consistent with the principle that students should arrive at UC as well prepared as possible. BOARS agreed that extending mathematics knowledge beyond the three foundational courses would help students thrive in college-level, quantitative courses, and has encouraged the Workgroup to develop criteria for these high-level courses, which should cover pre-calculus, statistics, and data science. Any additional mathematics courses taken in 11th or 12th grade that students select should be consistent with their academic goals. Denoting Area C courses that best prepare students for college-level, quantitative coursework was consistent with the UC expectation that students are encouraged to take the most challenging courses available at their high school and would be evaluated accordingly. Ms. Knowlton underscored that, regardless of the recommendations, applicants would still be required to complete the three foundational courses—Algebra 1, Geometry, and Algebra 2 or Integrated Mathematics I, II, and III—to receive full consideration for admission.

Han Mi Yoon-Wu, Associate Vice Provost and Executive Director of Undergraduate Admissions, stated that, immediately after the release of the Area C Workgroup report, an announcement was sent to over 35,000 educators and counselors through the UC Counselors and Advisors Bulletin and the UC high school articulation newsletter, and to

CSU, the State Board of Education, and the ICAS Subcommittee on Mathematics Competencies. The announcement summarized the report and provided preliminary guidance and a timeline for implementation.

Ms. Yoon-Wu presented data regarding the availability of college preparatory mathematics in high schools. Over 2,000 schools had an A–G course list, about 1,600 of which were California public high schools. Nearly 96 percent of California public high schools had advanced mathematics options beyond the three foundational courses, and, in 13 such schools, statistics courses were the highest level of mathematics offered. Seventy-one schools, or 4.3 percent of all schools, had no advanced mathematics courses. Undergraduate Admissions planned to move courses approved in Area C that were not part of the required three-course sequence to one of two new categories. The first would be higher-level mathematics courses, which built on the content of the three required courses and could validate the omission of or a great deficiency in Algebra 2 or Integrated Mathematics III. The second category would be mathematics courses that would not validate Algebra 2 but would still align with Common Core State Standards and be consistent with the ICAS general college preparedness recommendations. These courses would be options for a fourth year of mathematics and could be taken after the three required courses or concurrently. The validation rules for courses in statistics and data science would change in 2025–26, which would give schools adequate time to review and revise courses. The changes to validation rules were expected to have minimal impact on UC and CSU eligibility. Students who complete a mathematics course that validates Algebra 2 or Integrated Mathematics III at the time it is taken, including this year and next year, would not be affected. Those who plan to take statistics or data science courses two years from now would have time to complete Algebra 2 or Integrated Mathematics III. For fall 2023 admissions, only 387 out of over 132,000 California first-year applicants had taken a statistics or data science course as their highest level of mathematics without having completed Algebra 2 and Integrated Mathematics III. Of those, 169 applicants were admitted to UC, and 63 enrolled. Eight percent of UC applicants took only the three required courses, more than 91 percent went beyond the requirement, and less than one percent took a statistics course without having taken Algebra 2 and would be affected by this recommendation.

Mike Torres, Director of the Curriculum Frameworks and Instructional Resources Division of the California Department of Education, stated that, according to the Mathematics Framework for California Public Schools: Kindergarten Through Grade 12, the State Board of Education believed that offering a variety of mathematics courses relevant to an information-heavy, data-driven world would help build an accessible pipeline to existing and new STEM careers in high demand in California’s future economy. The Framework was meant to support the implementation of the California Common Core State Standards for Mathematics and specified criteria for adopting State-level instructional materials and guidance for professional development aligned to State standards. The Framework drew on the experience of educators and emphasized strategies for integrating State standards in ways that challenge, engage, and support students. It aimed to ensure that students develop deep skills and a love of mathematics, and that more students choose to pursue STEM or other careers that benefit from quantitative knowledge and reasoning. There had been

inaccurate reports that the Framework discouraged the teaching of algebra in eighth grade. Rather, it encouraged students to take Algebra 1 or Integrated Mathematics I before ninth grade so that they could take more advanced mathematics in high school. The Framework also encouraged schools that offer these courses to plan carefully so that students have the foundational skills and support needed to complete these classes. It sought to increase student engagement by exploring major mathematical concepts in ways that are meaningful and relevant to students' lives. Some core concepts were based on practices of countries with the highest performing students according to the International Student Assessment. Mr. Torres provided examples from Finland, Japan, and Estonia.

The Framework prioritized equity. Female students and students of color were underrepresented in STEM fields, and many students become discouraged in their pursuit of higher-level mathematics during their K–12 education. Making mathematics learning relevant, engaging, and accessible could help widen the pipeline and reduce barriers to STEM majors and careers. The Framework continued to support the traditional three-course sequence of Algebra 1, Geometry, and Algebra 2 or Integrated Mathematics I, II, and III; an earlier draft included a pathway that emphasized data science but was removed, with some elements retained in existing pathways. The Framework encouraged a diverse offering of courses, including computer science, statistics, data science, financial algebra, pre-calculus, and calculus. Mr. Torres remarked that there should be more options beyond the traditional course sequence that encourage students to take higher-level mathematics. Like statistics, data science could allow students to pursue answers to real-world questions relevant to their lives and future careers while potentially advancing their own knowledge of higher-level mathematics. The Department of Education appreciated that in Stage 2 the Workgroup was charged with identifying content that could be included in a higher-level data science course.

Regent Raznick asked whether the data science curriculum could be structured to validate Algebra 2 or Integrated Mathematics III. Ms. Adhikari replied that it is possible to have an algebra class that uses data as its main motivator. However, the three commonly used data science curricula would have to be modified very significantly to achieve this. High school and university curriculum developers could partner toward this end.

Regent Raznick asked when the Framework was implemented. Mr. Torres replied that the Framework was adopted by the State Board of Education in July 2023. County offices of education and local school districts had begun implementation, and statewide instructional materials were being prepared for adoption in 2025.

Regent Raznick asked if the Framework was adopted in response to California eighth grade students' performance in the National Assessment of Educational Progress (NAEP). Mr. Torres responded that, in addition to the NAEP, 34 percent of students statewide were meeting or exceeding mathematics standards according to the California Assessment of Student Performance and Progress. The Framework sought to foster positive relationships with mathematics among students.

Regent Anguiano asked what evidence there was that students would not be prepared for UC when only 63 enrollees had taken a statistics or data science course as their highest level of mathematics without having completed Algebra 2 or Integrated Mathematics III. Ms. Knowlton replied that using a statistics course to validate Algebra 2 has not been a competitive route to UC, as admission involved taking more rigorous courses. The aforementioned students were admitted under holistic review and had strong applications. It would be difficult to obtain data on their completion rate since there were so few of these students. In Ms. Knowlton's view, substituting Algebra 2 with a course that does not cover that key material would be a concern.

Regent Anguiano asked why this would be a concern and the evidence for it. Committee Chair Park replied that there was not much evidence due to the small sample size. Ms. Adhikari added that the Workgroup did seek evidence from students admitted under this pathway. She hesitated to draw conclusions based on this small group but hoped the Stage 2 report would indicate where each area of mathematics is used at the university level and the mathematics preparation necessary for a particular path. That would be evidence-based.

Regent Tesfai asked if the Workgroup would determine that mathematics requirements differ depending on whether students pursue studies in STEM fields. Ms. Adhikari replied that the Workgroup hoped to have recommendations of what mathematics preparation is needed for different fields such as STEM, economics, business, and non-quantitative fields. The Workgroup was not currently considering whether there would be a difference in requirements.

Regent Tesfai asked how the University came to the decision that data science courses could no longer validate Algebra 2. He noted that students who change their field of study were underprepared or had a longer pathway to graduation. Ms. Knowlton responded that statistics courses did previously validate for Algebra 2, and data science courses met the criteria for statistics and were therefore eligible to validate Algebra 2. Very few students have taken that pathway but would be considered for admission. The Workgroup was convened out of concern that students were coming to UC with very little algebra knowledge. The Workgroup's first recommendation was that only courses that cover advanced algebra should validate Algebra 2. Students who took courses in statistics that are advanced and review important quantitative concepts could come to UC without a background in Algebra 2. Students without an advanced algebra background would be at a disadvantage if they attempted to take a precalculus course at the college level, and a wide range of academic pursuits would not be available to them as fields like the social sciences become more quantitative. After taking advanced algebra, students could choose from a statistics, data science, or precalculus pathway in their fourth year.

Regent Tesfai asked how data science courses could remain an option and be rigorous enough to prepare students for college programs. Ms. Adhikari stated that in Stage 2 the Workgroup would suggest modifications to current data science curricula to capitalize on lower-level mathematics. One could bring algebra and computer programming closer

together. Ms. Adhikari hoped to have suggestions for the instances in which data science classes could be appropriate for students who have taken the lower-level classes.

Regent Hernandez observed that people learn in different environments and learn concepts differently. Data science seemed more project-based than algebra or calculus and focused more on analysis and the application of data. He asked whether a course could validate Algebra 2 if a high school student wished to pursue a career in data science and whether the Workgroup was concerned about data science or the lack of Algebra 2. Ms. Adhikari replied that, given her background, she was well-disposed toward using data science to attract students to quantitative fields. However, in order to validate Algebra 2, a course must cover almost everything in Algebra 2, which was very difficult for a data science course to do. In Stage 2, the Workgroup would determine the core of Algebra 2 with data from the ICAS Subcommittee on Mathematics Competencies.

Regent-designate Salazar shared his observation of the anxiety built up around satisfying the UC mathematics requirement; students unable to satisfy the requirement in high school would try to become eligible for transfer at a community college. While he believed that much of the recent *Los Angeles Times* article on this topic was inaccurate, it reflected the current perception. He asked if UC could both strengthen mathematics and help anxious students continue their education.

Committee Chair Park invited Student Observer Xavier De Anda to make remarks.

Mr. De Anda stated that UC Student Association (UCSA) recently sent a letter to the Board of Regents out of concern that a change in the admissions requirement could disparately affect tens of thousands of students seeking a UC education. UCSA was deeply committed to ensuring that all California students have access to the rigorous coursework required for a four-year university education and to the tools needed to pursue a particular career. Students were opposed to the decision by the Academic Council and BOARS to limit the eligibility of certain data science and statistics courses to fulfill the Area C requirement. Mr. De Anda stressed the value of giving more students of color access to advanced mathematics opportunities and noted that over half of California high school students were not supported to complete A–G requirements. The Los Angeles Unified School District (LAUSD) was one of many school districts that might face the disparate impact of such a decision; between 2016 and 2018, 36 percent of LAUSD high school seniors took a data science or statistics course. Such limits could also affect minoritized and rural communities' ability to access a UC education. Furthermore, unclear messaging from the BOARS report was already starting to cause confusion among students and teachers in high schools across California. Mr. De Anda stated that the University has not assessed the impact of such a change on underrepresented students, who had less access to calculus and were more likely to have taken data science and statistics courses to meet the fourth-year requirement. UCSA urged the Board to request that BOARS and the Academic Council pause all communications about and implementation of the proposed changes to admissions requirements and that the University partner with the California Department of Education on a disparate impact analysis and assessment of the availability of advanced mathematics courses and qualified instructors.

Committee Chair Park stated her understanding that the three high school data science courses would not validate Algebra 2 but would still fulfill the Area C requirement, which would be bifurcated, and asked for clarification. Ms. Yoon-Wu, in response to Mr. De Anda's comments, stated that no change to admission eligibility has been made; the mathematics requirement for UC eligibility remained the same: Algebra 1, Geometry, and Algebra 2 or Integrated Mathematics I, II, and III. A fourth year of mathematics was recommended but not required for admission, and there was no recommended fourth-year course. BOARS has recommended that students preparing for STEM majors remain on a pathway towards calculus but has not recommended a specific course. The report stated that the three courses in data science and statistics generally did not validate Algebra 2 because they did not build on Algebra 2 content but still fell under Area C and met Common Core standards. Other advanced mathematics courses needed to be examined to determine whether they relied on the content of Algebra 2 or were other types of courses taken in addition to foundational courses. UC wanted students to take as many mathematics courses offered at their school as possible.

Committee Chair Park remarked that the University was not instilling a love of mathematics and expressed hope that Stage 2 would identify the most relevant and valuable parts of Algebra 2. In her view, the breadth of data science presented challenges from a disciplinary perspective and the University should support innovation in mathematics. Committee Chair Park shared that she read letters that expressed alarm and critiqued what was perceived as UC's decision. The University had an opportunity to be more clear, intentional, and inclusive.

3. **APPROVAL OF MULTI-YEAR PLANS FOR PROFESSIONAL DEGREE SUPPLEMENTAL TUITION FOR SIX GRADUATE PROFESSIONAL DEGREE PROGRAM**

The President of the University recommended that the Regents approve the multi-year plans for charging Professional Degree Supplemental Tuition (PDST) for six graduate professional degree programs as shown in Display 1.



**DISPLAY 1: Proposed Professional Degree Supplemental Tuition Levels<sup>1</sup> for Six Programs**

	Current Level		Proposed Level			
	<u>2023-24</u>	<u>2024-25</u>	<u>2025-26</u>	<u>2026-27</u>	<u>2027-28</u>	<u>2028-29</u>
<b>Public Health, Berkeley</b>						
Resident PDST Level	\$10,176	\$10,532	\$10,900	\$11,282	\$11,676	\$12,084
Nonresident PDST Level	\$10,176	\$10,532	\$10,900	\$11,282	\$11,676	\$12,084
<b>Health Informatics, Davis</b>						
Resident PDST Level	\$8,370	\$8,787	\$9,228	\$9,687	\$10,173	\$10,680
Nonresident PDST Level	\$8,370	\$8,787	\$9,228	\$9,687	\$10,173	\$10,680
<b>Public Health, Davis</b>						
Resident PDST Level	\$9,390	\$9,861	\$10,356	\$10,875	\$11,421	\$11,994
Nonresident PDST Level	\$9,390	\$9,861	\$10,356	\$10,875	\$11,421	\$11,994
<b>Pharmacy, San Diego</b>						
Resident PDST Level	\$30,375	\$35,148	\$36,906	\$38,751	\$40,689	\$42,723
Nonresident PDST Level	\$30,375	\$35,148	\$36,906	\$38,751	\$40,689	\$42,723
<b>Dentistry, San Francisco</b>						
Resident PDST Level	\$35,985	\$37,065	\$38,175	\$39,321	\$40,500	\$41,715
Nonresident PDST Level	\$35,985	\$37,065	\$38,175	\$39,321	\$40,500	\$41,715
<b>Nursing (DNP), San Francisco</b>						
Resident PDST Level	N/A	\$23,052	\$23,904	\$24,792		
Nonresident PDST Level	N/A	\$23,052	\$23,904	\$24,792		

<sup>1</sup> The amounts reflect the maximum PDST levels to be assessed, effective as of the academic year indicated. Assessing PDST levels less than the level indicated requires approval by the President with the concurrence of the Chancellor. PDST levels may be assessed beyond the period covering the program's approved multi-year plan but not in excess of the maximum levels specified in the final year.

[Background material was provided to Regents in advance of the meeting, and a copy is on file in the Office of the Secretary and Chief of Staff.]

Committee Chair Park stated that representatives from the UC Davis Health Informatics, UC San Diego Pharmacy, UCSF Dentistry, and the new UCSF Doctor of Nursing programs were present to answer questions.

Committee Chair Park asked about the survival of the UCD Health Informatics program with a cohort of 18 students. Nicholas Anderson, Director of Informatics Research at UC Davis Health, replied that the program had an average student body of 30 for two years and an incoming cohort of about 12 students per year. Students had both professional and academic career goals, and those with careers in the field progressed to intermediary to advanced roles. The program now had 32 alumni employed by UC and about 170 alumni across the country and the world.

Committee Chair Park asked why the UCSF Dental Surgery program was intentionally declining enrollment amidst increased demand for dentists, especially those who participate in Medi-Cal or practice complex or pediatric dentistry. Michael Reddy, Dean of the UCSF School of Dentistry, stated that this was in response to an accreditation report noting the crowding of clinical space, which Dr. Reddy attributed to increases in enrollment over time and a change in curriculum whereby second-year dental students obtained early clinical experience. A total of 180 students were competing for 80 dental chairs. According to the clinical faculty, all graduates were clinically competent but did not necessarily have

the confidence that comes from deep clinical experience, which led to the decision to reduce enrollment. In the future, UCSF sought to expand its community-based dental education in Northern California, mostly in underserved areas such as Federally Qualified Health Centers, to reserve room for training on campus. The DDS-ASPIRE program would enroll an additional 42 dentists to learn advocacy and community leadership and practice in underserved areas, similar to UC Programs in Medical Education (PRIME).

Committee Chair Park shared that the Committee was concerned about the UCSD Pharmacy program's proposed Professional Degree Supplemental Tuition (PDST) increase of 15 percent in the first year but noted that, even with that increase, the cost of the program would not exceed that of its closest competitor at UC Irvine. Brookie Best, Dean of the UCSD Skaggs School of Pharmacy and Pharmaceutical Sciences, responded that, in her view, this was the most responsible request in order to maintain the quality of the program and to set it up for long-term success. With the proposed increase, the UCSD program would cost \$700 less than the UCI program for the next few years and would remain in the middle of the three UC pharmacy schools. UCSD was requesting this increase due to a convergence of factors. An investment in critical resources was needed to support students, and faculty salaries, which were lagging other pharmacy schools, and were inhibiting the ability to recruit new faculty to address the over ten percent faculty vacancy rate. Significant investment in diversity efforts over the last several years has helped grow the number of underrepresented students from three percent to 16 percent, and more funding was needed. Dr. Best's top priority has been fundraising for student scholarships and has more than tripled the School's endowed student scholarships and quadrupled current use scholarships in the last year. Even with the initial increase, affordability should stay relatively the same.

Mary Lynch, Associate Dean for Education Programs at the UCSF School of Nursing, stated that the Doctor of Nursing Practice (DNP) program would prepare nurses with a Bachelor of Science in Nursing (BSN) to become advanced practice nurses or specialists in health policy and public health. The School sought to implement an innovative curriculum that includes leadership, health policy, and health equity as key tenets for advanced clinical practice in varied healthcare environments. Future nurse practitioners would have an increased understanding of the importance of health equity and would more likely be leaders in health policy. The three-year program would address the state's most complex health issues and enhance and transform care for diverse communities. DNP graduates would have expanded responsibility and accountability in planning, implementing, and evidence-based strategies to improve individual and population health outcomes. The post-baccalaureate pathway to the DNP degree planned to welcome its first cohort in June 2024. UCSF proposed a PDST increase of 3.7 percent annually for three years, and the program would commit about 33 percent of PDST revenue to financial aid. An advanced practice nurse would understand the challenges of health insurance and better advocate on behalf of clients before State legislators.

Ms. Lynch addressed concerns about enrollment, comparators, and the trajectory of the program. In response to Committee Chair Park's question from a previous meeting, she stated that the DNP program could enroll about the same number of students as the

School's Master of Science program, which enrolled 130 to 150 students and about 98 percent of whom graduate on time. The motivation to become an advanced practice nurse would drive greater enrollment. This would be first the post-BSN-to-DNP program in the UC system. By comparison, the California State University (CSU) system had one postbaccalaureate-to-DNP program that enrolled 30 to 40 students per year. The program was not able to begin recruiting students until the new curriculum was approved by the California Board of Registered Nursing in November 2023 but received over 175 applications in about three months.

Regent Hernandez asked about the diversity of the student body for this program. Ms. Lynch emphasized the program's commitment to recruiting and enrolling diverse students. UCSF planned to partner with CSU, starting with CSU East Bay, to provide undergraduate students an opportunity to observe DNP courses and projects.

Regent Hernandez asked about the program's steady state enrollment number and about the challenges the program might face while growing. Ms. Lynch replied that the School would continue to focus on recruiting diverse faculty that reflect the student body. She envisioned that the DNP program would enroll 150 students per year for a three-year program, which meant a total of 450 students. However, the top barrier to increasing the number of nurses and advanced practice nurses was clinical placement.

Regent Batchlor asked whether nurse midwives were included in the program. Ms. Lynch responded in the affirmative.

Upon motion duly made and seconded, the Committee approved the President's recommendation and voted to present it to the Board, Regents Anguiano, Batchlor, Hernandez, Park, Raznick, and Sarris voting "aye" and Regent Tesfai voting "no."

4. **ASTRONOMY AT THE UNIVERSITY OF CALIFORNIA**

[Background material was provided to Regents in advance of the meeting, and a copy is on file in the Office of the Secretary and Chief of Staff.]

The item was deferred.

5. **INNOVATION AND ENTREPRENEURSHIP UPDATE**

[Background material was provided to Regents in advance of the meeting, and a copy is on file in the Office of the Secretary and Chief of Staff.]

Richard Lyons, Associate Vice Chancellor for Innovation and Entrepreneurship at UC Berkeley and Chair of the President's Entrepreneurship Network Council, stated that selection for the Council began in July 2023 and its work in August 2023. The Council has provided quarterly updates to the campus vice chancellors for research (VCRs) and monthly updates to Mr. Lyons' counterparts at other universities. Three project teams were working to scale proof-of-concept (POC) funding, further develop sectoral networks, and

support international science, technology, engineering, and mathematics (STEM) founders based in California.

Mr. Lyons described POC funding as funding for translational research that filled the gap between government and venture funding. Two million dollars has been allocated for this project team, led by Paul Roben, Associate Vice Chancellor for Innovation and Commercialization at UC San Diego. Currently, the ten campuses spent approximately \$3 million to \$4 million on POC funding every year, but the project team estimated that UC would need about \$7 million per year. From 1995 to 2010, the University awarded discovery grants for fundamental research, after which UC provided central funding for Proof of Concept Commercialization Gap Grants. Assembly Bill 2664 helped provide POC funding at many UC campuses, as did UC Climate Action Grants. Mr. Lyons noted that UC POC funding programs existed on a continuum, ranging from early-stage commercialization ideas to company creation and commercialization. The project team planned to release guidelines in April and would work to improve outreach and participation among female and other underrepresented faculty. With matching funds from some campuses, the initial \$2 million allocation was expected to increase to \$3.7 million.

The sectoral network project team, led by Errol Arkilic, Chief Innovation Officer at UC Irvine, sought to determine whether UC should create more mentoring networks or utilize existing ones. The project team has interviewed the University of Illinois for its experience with Venture Mentoring Service (VMS), which was being offered by the Massachusetts Institute of Technology to other universities. Similarly, the project team was considering how existing campus networks could be utilized at other campuses.

Governor Newsom's proposed State budget included a \$2 million allocation to support non-U.S.-born entrepreneurs who wished to start a company in California but lacked the appropriate visas. The allocation could help about 40 entrepreneurs who would otherwise return to their home country or be sponsored by a multinational company. Other states like New York, Massachusetts, and Michigan already had similar programs and were offering substantial annual allocations. Mr. Lyons hoped to distribute this funding widely across the system and for an annual allocation from the State. This effort could attract more Ph.D. students to California and enhance the reputation of the UC system.

Regent Hernandez stated his view that foreign-born Ph.D. graduates should be welcomed to stay in the U.S. He asked if the University could obtain equity from entrepreneurs who succeed after receiving funding through the POC and foreign-born entrepreneur projects. Mr. Lyons replied that he has considered how UC could participate in the non-linear upsides of the value that the University creates for society. Aside from licensing, there were many new options for obtaining equity. For instance, POC funding would be given to intellectual property that is licensable from UC. Campuses licensing to start-up companies were taking equity and were not limited to royalties. The third project team needed to explore the potential equity arrangement that UC could make with international STEM founders. For instance, Unshackled Ventures helped international founders stay in California or the U.S. by providing venture capital funding in exchange for equity.

Regent Hernandez asked whether there were innovation and entrepreneurship (I&E) programs for nontraditional Ph.D. students or those who qualify for the 8(a) Business Development Program of the U.S. Small Business Administration. Mr. Lyons responded that all three projects would have this dimension, but it was still being designed.

Regent Anguiano noted that campuses with the most underrepresented students, UC Merced and UC Riverside, also had less I&E infrastructure. She urged the Council to continue a differentiated approach to POC funding to ensure better representation and to support campuses growing their research mission. Mr. Lyons expressed agreement. UC Merced was among the campuses that would not meet the match of the POC funding allocation for at least the first two years.

Regent Leib recognized Mr. Lyons for his work at UC Berkeley and recalled Mr. Lyons' early efforts to help educate campuses about I&E. Mr. Lyons indicated that the POC landscape was expanding. Last month, a donor proposed to set up a 501(c)(3) organization that allocates POC funding to UC Berkeley faculty. He envisioned donors wishing to target their POC grants. Regent Leib stated that UC sought to enlarge the group receiving early-stage funding. The few ideas that do succeed could result in the next Google.

Committee Chair Park stated that she and Regent Leib were committed to growing POC funding from both external and internal sources. For instance, campuses could earmark a percentage of their indirect cost recovery to POC funding. She wished to determine what happens to revenues from royalty and licensing streams, where these revenues sit, and who benefits from the interest. In her view, UC should ensure that it is capitalizing on the intellectual horsepower and passion of people who wish to innovate for the benefit of society.

The meeting adjourned at 5:55 p.m.

Attest:

Secretary and Chief of Staff