

The 2021-22 Budget: California Institutes for Science and Innovation

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In this post, we describe the Governor’s proposal relating to the California Institutes for Science and Innovation (hereafter referred to as “the institutes”), which are administered by the University of California (UC). We first provide background on the institutes’ activities and budget. Next, we describe the Governor’s proposal. We then offer our assessment of the proposal and make an associated recommendation.

Background

UC’s Four Institutes Focus on Research and Economic Development. Originally established by Chapter 79 of 2000 (AB 2883, Villaraigosa), each of UC’s four institutes is a multicampus endeavor focused on research in select science and engineering fields. As **Figure 1** shows, two of these institutes involve northern California campuses and two involve southern California campuses. All campuses except UC Riverside participate in at least one institute. Each institute oversees facilities across its participating campuses that contain specialized research laboratories. Much of the research that occurs at the institutes is conducted by collaborative teams of researchers from UC and private industry. The institutes also support many other initiatives intended to foster innovation and entrepreneurship and connect UC students to job experiences and opportunities.

Mix of Funds Support Institutes’ Core Operations.

When the state authorized UC to develop the institutes in 2000, it provided \$170 million in one-time General Fund over two years to support the construction of the institutes’ facilities. Beginning in 2002-03, the state provided \$4.8 million General Fund to support the institutes’ annual

operations. Though the state has since eliminated this earmark and folded the associated funds into UC’s main appropriation, UC continues to allocate this amount of General Fund to the institutes. Today, UC reports total core funding for the institutes of \$16.6 million, consisting of state funds and campus funds. On top of this core funding, the institutes receive additional funds from federal grants, private donations, and other external sources for specific research and other limited-term endeavors. State law requires UC to match two dollars from external and nonstate sources for each dollar of state funding appropriated to the institutes.

Proposal

Proposes One-Time Funding for Education-Industry Partnerships. The Governor’s budget provides \$20 million one-time General Fund to the institutes. The proposed provisional language indicates the funds could be used to (1) provide students with stipends to enable them to connect with industry employers and (2) for research teams to form industry partnerships. The proposed language indicates that these partnerships are intended to better align educational programs and workforce needs. UC would have five years to spend the funds. The proposed language does not

Figure 1

Institutes for Science and Innovation Are Multicampus Initiatives

Institute	Campuses
California Institute for Quantitative Biosciences	Berkeley, San Francisco, Santa Cruz
Center for Information Technology Research in the Interest of Society	Berkeley, Davis, Merced, Santa Cruz
California Institute for Telecommunications and Information Technology	Irvine, San Diego
California Nanosystems Institute	Los Angeles, Santa Barbara

specify other key parameters for the funds, such as student eligibility and the size of the stipends. These matters would be left for UC to determine.

UC’s Preliminary Plans Vary by Institute.

The Governor’s proposal was not connected to a specific UC request. Since the release of the proposal in January, the UC Office of the President has worked with the institutes to develop initial

plans for the use of the \$20 million in one-time funds. Based on these plans, which UC recently submitted to our office, UC intends to allocate the funds equally among the four institutes, providing roughly \$1 million to each institute each year of the five-year period. As **Figure 2** shows, the institutes’ plans vary considerably, targeting different student populations, supporting different activities, and

Figure 2

Institutes Would Fund Several Initiatives

UC’s Preliminary Plan for Each Institute Assuming Governor’s Proposed Funding Level^a

Institute	Projected Participants Per Year	Eligibility to Participate	Program Description	Use of Funds
California Institute for Telecommunications and Information Technology	225	Undergraduate students from San Diego, Irvine, and possibly Riverside.	Students would work in research teams, overseen by one faculty mentor and one industry mentor. Students would also take coursework related to their projects.	To be determined.
Center for Information Technology Research in the Interest of Society	Up to 150	Undergraduate and graduate students from Berkeley, Davis, Merced, Santa Cruz, and Riverside.	25-30 research teams annually, each comprised of 2-5 participants, would conduct projects on various topics. Up to 30 individual students annually would participate in industry experiences.	\$50,000 for each research team (\$25,000 General Fund and \$25,000 from industry match). Stipends for individual students not yet determined. \$150,000 annually for administrative costs.
California Nanosystems Institute ^b				
Los Angeles	90	Undergraduate and graduate students from Los Angeles, as well as students from the California State University and other four-year institutions in Southern California.	40 undergraduate students would participate in fellowships. 30 undergraduate and graduate students would participate in a new hands-on lab training program. 20 undergraduate and graduate students would complete summer capstone projects.	Average of \$2,500 per student for fellowships. Annual cost of \$140,000 to \$148,000 for lab training program. \$6,000 per student for summer capstone projects. Annual cost of \$80,000 to \$90,000 for administrative costs.
Santa Barbara	55	Undergraduate and graduate students from Santa Barbara, as well as students from the other higher education segments.	40 graduate and 15 undergraduate students would participate in short-term research projects, internships, and externships.	\$1,500 per student for short-term research projects. \$10,500 to \$20,000 per student for internships and externships. No administrative costs included in proposal.
California Institute for Quantitative Biosciences	20	Postdoctoral researchers from Berkeley, San Francisco, Santa Cruz, Davis, Merced, and Riverside. Undergraduates from community colleges.	Ten postdoctoral researchers each year would receive proof-of-concept grants for research projects that aim to mitigate health disparities. Ten undergraduate interns would receive stipends for industry experiences.	\$70,000 for each postdoctoral student. \$20,000 for each undergraduate intern. \$100,000 annually for administrative costs.

^a This proposal came from the administration, rather than UC. At our request, UC provided information regarding how the institutes planned to use the proposed funding. This figure shows our summary of the information UC provided.

^b This institute submitted separate proposals for each of its participating campuses, with each campus assuming it would receive \$500,000 per year (\$2.5 million across the five-year period).

providing differently sized stipends. Together, the institutes plan to serve up to 540 students annually, or up to 2,700 students over the five-year period. Though only one institute included explicit plans to have industry funds match state funds, the proposal presumably would be subject to the 2:1 matching requirement in existing law.

Assessment

Proposal Has a Few Key Weaknesses. The administration's stated objectives of aligning education programs to workforce needs, better connecting students to job opportunities, and fostering economic innovation are laudable in concept. The proposal, however, raises three concerns. First, the proposal likely would have limited impact on California's students and economy, as it would support opportunities for a small number of students in a narrow set of fields. Second, the notable variation in each institute's plan appears to reflect local institutional priorities instead of a statewide assessment of which students and activities are of highest priority for workforce development. Third, the administration to date has not provided a statewide assessment of gaps in educational programs, gaps in workforce supply, or unmet industry demand. Without more strategic statewide planning, the Legislature can have little confidence that this proposal is targeting limited resources toward the state's highest priority workforce needs.

Unclear How Proposal Would Interact With Forthcoming Workforce Proposal. The *Governor's Budget Summary* indicates that the administration plans to submit a higher education and workforce proposal totaling \$250 million in one-time General Fund. According to the Governor, this forthcoming proposal will be focused on "workforce development, segment alignment, and improving linkages between higher education institutions and employers." These objectives are very similar to the Governor's objectives for funding the institutes. Without having the much larger proposal, the Legislature cannot compare the two initiatives and assess whether one might have stronger justification and be more cost-effective than the other.

Recommendation

Request Administration to Provide Stronger Justification for Proposal. Prior to taking action on this proposal, the Legislature could request the administration to respond to the key weaknesses identified above. Specifically, the Legislature could request that the administration (1) provide an analysis of education and workforce gaps in the state; (2) describe how funding the institutes would address these gaps and unmet industry demand; and (3) explain how this proposal is intended to interact with the larger, forthcoming \$250 million workforce proposal. Were the administration not able to provide the Legislature more compelling information in these areas over the next couple of months, we recommend the Legislature reject the \$20 million in one-time funding for the institutes and redirect those funds toward higher one-time state budget priorities.

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This report was prepared by Jason Constantouros, and reviewed by Jennifer Pacella and Anthony Simbol. The Legislative Analyst's Office (LAO) is a nonpartisan office that provides fiscal and policy information and advice to the Legislature.