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September 28, 2016

Director Michael Cohen
Department of Finance
915 L Street
Sacramento, California 95814

The Honorable Mark Leno
Chair, Joint Legislative Budget Committee
1020 N Street, Room 553
Sacramento, California 95814

Dear Director Cohen and Senator Leno:

Pursuant to Section 92670 of the Education Code of the 2016 Budget Act, enclosed is the University of California's final report to the Legislature and the Department of Finance on Expenditures for Instruction.

If you have any questions regarding this report, Interim Associate Vice President David Alcocer would be pleased to speak with you. He can be reached by telephone at (510) 987-9113, or by e-mail at David.Alcocer@ucop.edu.

Yours very truly,

Janet Napolitano
President

Enclosure

cc: Senate Budget and Fiscal Review
The Honorable Marty Block, Chair
Senate Budget and Fiscal Review Subcommittee #1
(Attn: Mr. Anita Lee)
(Attn: Ms. Cheryl Black)
The Honorable Kevin McCarty, Chair
Assembly Budget Subcommittee #2
(Attn: Mr. Mark Martin)
(Attn: Ms. Katie Koerber)
Ms. Peggy Collins, Joint Legislative Budget Committee

Mr. Danny Alvarez, Secretary of the Senate
Ms. Tina McGee, Legislative Analyst's Office
Ms. Amy Leach, Office of the Chief Clerk of the Assembly
Mr. Jim Lasky, Legislative Counsel Bureau
Mr. E. Dotson Wilson, Chief Clerk of the Assembly
Mr. Jeff Bell, Department of Finance
Mr. Christian Osmena, Department of Finance
Ms. Maritza Urquiza, Department of Finance
Ms. Tina McGee, Legislative Analyst's Office
Mr. Mac Taylor, Legislative Analyst's Office
Mr. Jason Constantouros, Legislative Analyst's Office
Provost and Executive Vice President Aimée Dorr
Executive Vice President & Chief Financial Officer Nathan Brostrom
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Vice President Pamela Brown
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Associate Vice President and Director Steve Juarez
Executive Director Jenny Kao
Executive Director Kieran Flaherty
Manager Bruce Kennedy

Office of the President
October 2016

UNIVERSITY OF CALIFORNIA

Report on Expenditures for Undergraduate and Graduate Instruction and Research Activities

I. EXECUTIVE SUMMARY

California's forward-thinking public investments in higher education have fueled economic prosperity, social mobility, and cultural opportunities for decades. The State's historic commitment has enabled the University of California to educate over 250,000 students in 2015-16 alone and to contribute to the lives of all Californians through its cutting-edge research, medical innovation, agricultural advancement, and other achievements consistent with UC's three-part mission of instruction, research, and public service.

This report provides information on expenditures for educational activities pursuant to Section 92670 of the Education Code. Figures are provided using more than one methodology since no single, established methodology exists for calculating educational expenditures at a large and multifaceted research university like UC. The table below summarizes the results of each methodology. Detailed figures and a description of each methodology can be found in the full report.

	Methodology			
	University of California		NACUBO (Partial)[1,2]	
Type of Student	Narrow Definition	Broad Definition	1.25x Weight for Graduate Students	1.7x Weight for Graduate Students
Undergraduate Students				
General Campus	$21,457	$28,606	$30,419	$28,406
STEM Disciplines	$21,383	$28,883		
Non-STEM Disciplines	$21,510	$28,408		
Graduate Students				
General Campus	$36,500	$54,445	N/A	N/A
STEM Disciplines	$36,400	$57,799		
Non-STEM Disciplines	$36,600	$54,901		
Health Sciences	$252,300	$368,600		

[1]The National Association of College and University Business Officers (NACUBO) methodology does not result in separate expenditure figures for different groups of undergraduates, or expenditures for graduate education.
[2] NACUBO figures presented in this report exclude "institutional and community costs" because estimates of these costs, as defined by NACUBO, were not available in time for publication. As a result, all NACUBO figures in this report should be considered partial estimates of the cost of undergraduate instruction; figures based upon the fully implemented NACUBO methodology would be higher than the figures shown in this report. Institutional and community costs will be included in the 2018 edition of this report, which is the first year in which the University is required to include figures based upon the NACUBO methodology.

II. INTRODUCTON

Pursuant to Section 92670 of the Education Code, the University of California is required to report biennially to the Legislature and the Department of Finance expenditures for undergraduate and graduate instruction and research activities, disaggregated by certain categories of students and fund sources. The report is to be submitted on or before October 1 of every other year, beginning in 2014.

For reports prepared on or after January 1, 2017 (i.e., reports submitted in 2018 and future even-numbered years), UC is required to include figures disaggregated by campus, along with figures calculated according to a methodology developed by the National Association of College and University Business Officers (NACUBO).

In recognition of the Legislature's interest in the NACUBO methodology (reflected in AB 1602, statutes of 2016), the University has included preliminary, partial figures based upon the NACUBO methodology in the current version of the report. A full application of the NACUBO methodology will accompany the report submitted in 2018 and future years.

III. CALCULATING EXPENDITURES FOR EDUCATION

In order to meet the reporting requirements of Section 92670, the University reviewed a number of existing approaches used in different contexts for calculating total instructional expenditures per undergraduate and graduate student at a major research university.

These methodologies consider total expenditures for education to include both **direct expenditures** on instruction and related activities (teaching, academic support, student services, etc.) and **indirect expenditures** (institutional support, maintenance, depreciation, etc.) attributable to education. The methodologies differ in how they define direct versus indirect expenditures and how indirect expenditures are attributed to education.

None of the approaches, however, proved capable of providing expenditure figures disaggregated by both student level and field of study as required by Section 92670. To address the statutory requirements, the University developed an alternative methodology described below. For comparison purposes, the University also calculated a more general estimate of educational expenditures based on a partial application of the NACUBO model. Results from both the University's methodology and the NACUBO methodology are presented in this report.

IV. THE UNIVERSITY'S METHODOLGY FOR CALCULATING EXPENDITURES FOR EDUCATION

The methodology developed by the University to satisfy its statutory reporting requirements acknowledges the University's three-part mission under the California Master Plan of Higher Education of teaching, research, and public service.

- **Teaching.** UC serves undergraduate, graduate academic, and graduate professional students, and is the public segment primarily responsible for awarding the doctorate and many professional degrees.
- **Research.** UC is the primary State-supported academic agency for research, which is inextricably linked with graduate level teaching and a critical component of undergraduate education for many disciplines. Research creates a vital link between UC and the private sector, fostering new knowledge and innovation leading to new industries and jobs. It also leverages roughly $3 billion in direct and indirect federal funding each year. For every State dollar spent to support research, another $7 is generated from non-State fund sources.
- **Public Service.** UC contributes to the well-being of communities, the state, and the nation through a variety of activities, including academic preparation and professional development programs for K-12 students and teachers, Cooperative Extension, and delivery of health services statewide. UC's public service programs allow policy makers to draw on the expertise of UC's faculty and staff to address public policy issues of importance to the state and society at large.

The University's methodology takes into account all three missions when calculating University expenditures that are directly or indirectly attributable to education.

The University's method also addresses the fact that UC's accounting and information systems do not readily allow for the precise disaggregation of educational expenditures by student level or discipline. The University's methodology is based upon functional expense categories reported in the University's published financial statements together with reasonable proxies and estimates when necessary.

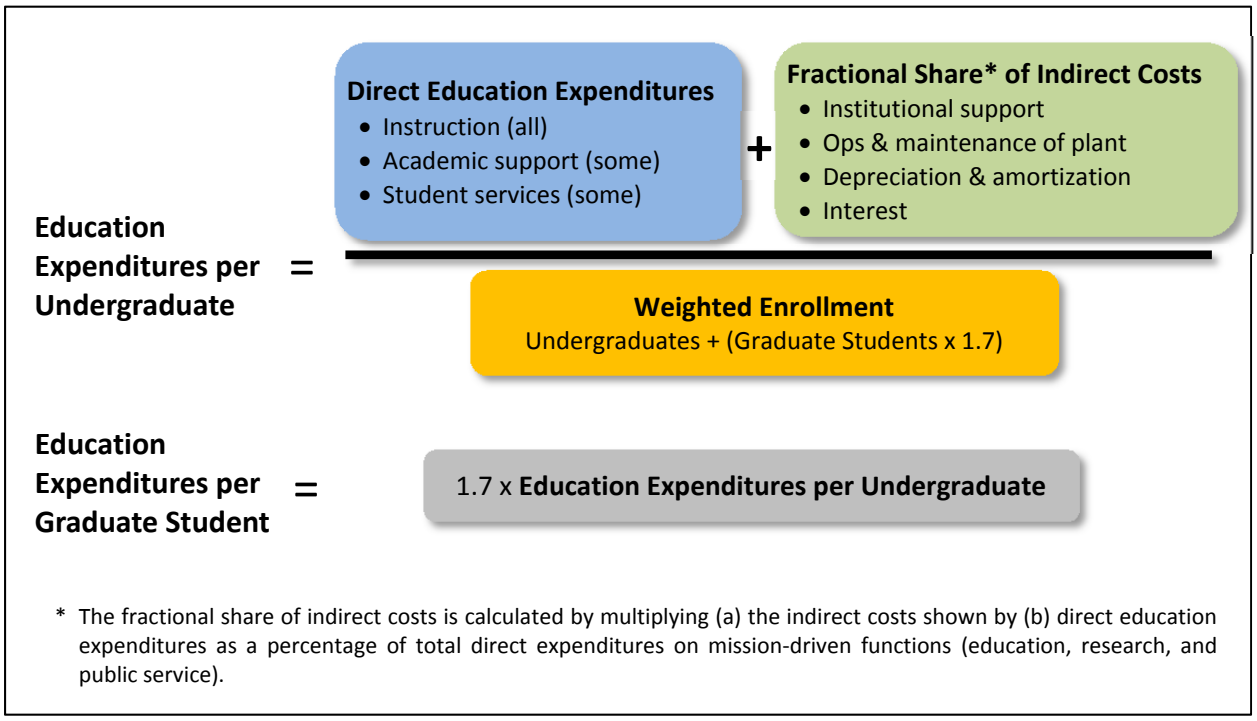
The University's approach can be applied using a **narrow definition** of instruction, focused on the direct and indirect expenditures most closely associated with teaching students in classroom and laboratory settings, or a **broad definition** that also includes the costs of providing a diverse and comprehensive learning community in which students experience the depth and breadth of intellectual, social, and cultural opportunities offered at the University of California. Both are described below.

Calculating Expenditures for Instruction Using the Narrow UC Methodology

Under the narrow methodology, direct expenditures for education (i.e., expenditures in the functional areas of instruction, together with a portion of expenditures for academic support and student services) are added to a fractional share of indirect costs (operations and maintenance of plant, institutional support, depreciation and amortization, and interest). The fractional share of indirect costs is calculated by taking direct education expenditures and dividing them by the sum of direct education, research, and public service expenditures. The resulting total expenditure for education is then divided by student full time enrollment (FTE) enrollment weighted for undergraduate and graduate students to achieve a per-student expenditure for education.

The process used for calculating the narrow UC methodology is illustrated in Display 1, below.

Display 1: University of California Expenditures for Instruction Model – Narrow Definition



The resulting figures for general campus undergraduate and graduate students under the narrow UC methodology are shown below in Table 1.

Table 1: 2014-15 Expenditures for Instruction (per student) – Narrow Definition

	State General Funds	Tuition & Fees	Nonresident Tuition	Other UC General Funds	Subtotal Core Funds[3]	All Other Funds[4]	Total, All Funds
General Campus							
Undergraduate	$6,451	$6,404	$2,360	$1,172	$16,387	$5,070	**$21,457**
Graduate	$10,985	$10,900	$4,019	$1,995	$27,900	$8,600	**$36,500**

Calculating Expenditures for Instruction Using the Broad UC Methodology

Expenditures for education can also be defined more broadly. The broader definition includes programs that were excluded from the narrower definition but contribute to the educational experience of UC students. For this calculation, all academic support, student services, and financial aid expenditures are

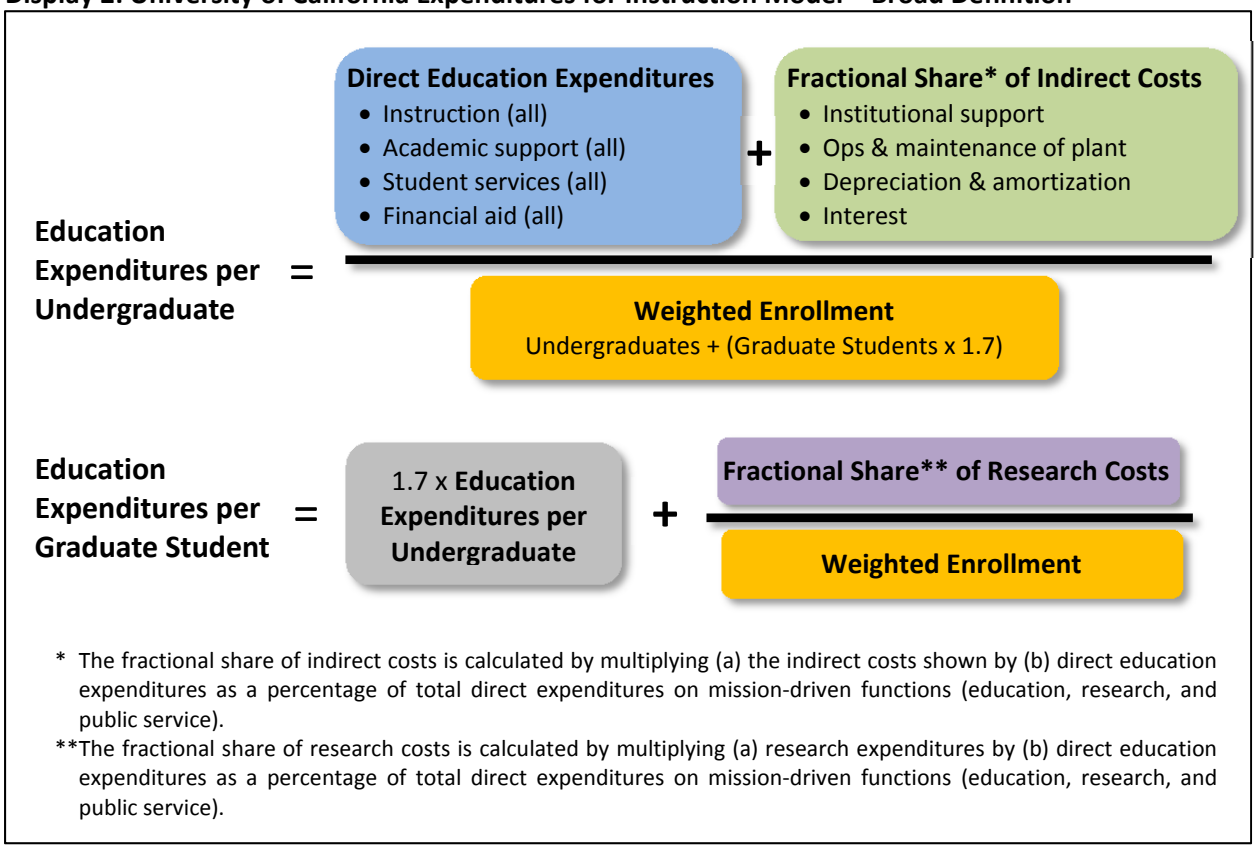
[3] Core Funds consist of State General Funds, revenue from student tuition and fees, and UC General Funds (primarily Nonresident Supplemental Tuition).

[4] "All Other Funds" includes sales and services revenue (exclusive of medical centers and auxiliaries revenues), government contracts and grants, private support, and other sources (including indirect cost recovery funds from research contracts and grants, patent royalty income, and management fees for Department of Energy labs).

included. In addition, a portion of research expenditures is included as part of the indirect expenditures for graduate education in recognition of the critical role research plays in the training of graduate students. Graduate students work closely with faculty and other colleagues acquiring skills and training in protocols and research techniques, which prepares these students to enter the workforce in knowledge-based industries and forms an essential part of their education.

The process used for calculating the broad UC methodology is illustrated in Display 2, below.

Display 2: University of California Expenditures for Instruction Model – Broad Definition



* The fractional share of indirect costs is calculated by multiplying (a) the indirect costs shown by (b) direct education expenditures as a percentage of total direct expenditures on mission-driven functions (education, research, and public service).

**The fractional share of research costs is calculated by multiplying (a) research expenditures by (b) direct education expenditures as a percentage of total direct expenditures on mission-driven functions (education, research, and public service).

The resulting figures for general campus undergraduate and graduate students under the broader UC methodology are shown below in Table 2.

Table 2: 2014-15 Expenditures for Instruction (per student) – Broader Definition

	State General Funds	Tuition & Fees	Nonresident Tuition	Other UC General Funds	Subtotal Core Funds	All Other Funds	Total, All Funds
General Campus							
Undergraduate	$7,302	$12,900	$2,672	$1,326	$24,200	$4,406	**$28,606**
Graduate	$12,989	$22,000	$4,752	$2,359	$42,100	$12,345	**$54,445**

Features Common to Both UC Methodologies

Weighting for Undergraduate and Graduate Students. To provide estimated expenditures by student level, the University assigned a higher weight to graduate students (1.7) than to undergraduate students (1.0) when allocating expenditures between the two groups of students. The higher weight for graduate students reflects two factors:

- Undergraduate students are considered full-time at 15 units per term, compared to 12 units for a full-time graduate student. This reflects the fact that, all else being equal, a unit of graduate education is more resource-intensive than a unit of undergraduate education. This weighting of full-time equivalent students is a standard practice in other institutions and is the basis for the ratio of 1.25 (15/12) used by NACUBO as the default graduate rate under its own methodology.

- A substantially higher percentage of student credit hours (SCH) for graduate students is taught by ladder-rank faculty compared to undergraduate students (78% and 48%, respectively). Since salaries for ladder-rank faculty are typically higher than for other types of faculty, expenditures by level of faculty can be used to estimate an overall differential between undergraduate and graduate expenditures. For 2014-15, the differential is estimated to be 1.32.

Combining these two multipliers for graduate students – 1.25 for full-time enrollment and 1.32 for type of faculty – suggests that graduate expenditures per FTE for instruction may be reasonably estimated to be, on average, about 1.7 times greater than undergraduate expenditures.[5] This 1.7x weighting for graduate student instructional expenditure is used as a proxy for differences in other expense categories as well.

Salary Expenditures. Instruction, research, and public service at the University are inextricably linked, and many students choose to attend UC to participate in and benefit from research and public service functions. This model captures all of a faculty member's salary to serve as a reasonable proxy for including research and public service activities related to instruction in lieu of identifying and quantifying the various activities captured directly in those functions. Similarly, staff perform support functions affecting students of all levels and disciplines. These expenses are not categorized on the basis of what level of student may benefit or their field of study. An added complication arises when attempting to determine expenses in STEM fields, as all undergraduate and graduate students take courses in both STEM and non-STEM disciplines.

Classification of Fund Sources. Section 92670 requests total expenditures for instruction from State General Fund, tuition and fees, nonresident tuition and fees, other student fees, and UC General Funds such as patent and royalty income. The University has included other significant fund sources that maintain instruction. These include student fees such as course materials fees, private indirect cost recovery, and the non-UC General Funds portion of indirect cost recovery. There are also extramural awards that support instruction, endowment, campus foundation, and gift funds. This is not an exhaustive list, but it demonstrates the significant impact of the State's investment in the University attracting other significant resources.

[5] The weight of 1.7 results from multiplying 1.25 (based on the relative resources required for each student credit hour of graduate education) and 1.33 (to reflect the higher cost of ladder rank faculty, who are more likely to teach graduate students), rounding to the nearest tenth.

Data Limitations. The University is unable to break out expenditures for graduate professional programs as requested. Most of these programs are authorized to charge Professional Degree Supplemental Tuition in addition to mandatory systemwide tuition and fees. These programs are often housed within larger departments where expenditures are not differentiated by program. There is no reliable method for delineating these expenditures on a systemwide basis, nor is there a suitable proxy to use to estimate them. Therefore, the University is unable to respond to this portion of the request.

Calculating Expenditures for Health Sciences Education

The University of California trains health professionals to meet state needs, operating the largest health sciences instructional program in the nation. UC Health includes 17 health professional schools on seven UC campuses – enrolling more than 14,000 students annually, as well as 12 hospitals operated by the UC medical centers – representing the fourth-largest health care delivery system in California. UC Health's professional programs include schools of dentistry, medicine, nursing, optometry, pharmacy, public health, and veterinary medicine. The UC system provides interdisciplinary opportunities for clinical and research experience, and in the preparation of future faculty and future leaders in research, the private sector, and public service.

Health sciences schools require faculty, administrative and staff personnel, supplies, and equipment to operate. Faculty requirements for instruction are linked to historic student-faculty ratios initially established for each profession and category of students enrolled. These lower student-faculty ratios are required for patient care activities and national accreditation standards with respect to clinical training and supervision of trainees, for example, and there are medical and legal responsibilities for supervision of students engaged in direct patient care. Additionally, health care provider roles require that health sciences education cut across traditional, discipline-specific boundaries and increasingly emphasize interdisciplinary, culturally sensitive patient-centered care.

The University's financial system reports separate General Campus and Health Sciences expenditures for instruction. Indirect expenditures for health sciences education are not reported separately. The University estimated indirect expenditures by calculating the proportion of health sciences faculty to all faculty, excluding the San Francisco campus (because all of San Francisco's expenditures are classified as health sciences and are captured in their entirety). That proportion serves as a proxy for estimating the health sciences share of costs related to institutional support. Health sciences expenditures in operation and maintenance of plant (OMP), depreciation, and interest were based on space use data in UC's Equipment, Facilities, and Assets (EFA) System. All health sciences expenditures are assumed to be for graduate education, given the very small number of undergraduate students in the health sciences.

The resulting figures for health sciences education are shown below in Table 3.

Table 3: 2014-15 Expenditures for Health Sciences Instruction (per student)

	State General Funds	Tuition & Fees	Nonresident Tuition	Other UC General Funds	Subtotal Core Funds	All Other Funds	Total, All Funds
Narrow Definition	$34,378	$14,600	$12,578	$6,244	$67,800	$184,500	**$252,300**
Broad Definition	$39,677	$16,300	$14,516	$7,207	$77,700	$290,900	**$368,600**

Other Factors That Impact the Health Sciences. In California and nationally, health sciences education as an enterprise faces ongoing challenges. Among those concerns most relevant to UC are consequences of major, multi-year budget reductions; current and looming faculty shortages; ongoing challenges in keeping pace with the volume and complexity of health sciences knowledge and changes within the health care delivery system; faculty recruitment, retention and compensation; access to clinical training sites; and achieving demographic diversity.

Funding for health sciences instruction is highly complex. Because of the high costs associated with health sciences education, State support for these programs remains an important resource. As a result of substantial multi-year budget cuts, other revenue sources have become more essential. Physician and other professional service fees, and increasingly, Professional Degree Supplemental Tuition (PDST) charged to students in medicine, dentistry, veterinary medicine, nursing, optometry, public health, and pharmacy are necessary to support UC instructional programs. During the State's fiscal crisis in the early 2000s, State support for UC's professional schools was substantially reduced and professional fees increased dramatically to offset lost State revenue. More recently PDST has increased in order to maintain quality and academic excellence as State support has further eroded.

Over the past decade, health sciences education has undergone fundamental adaptive changes to prepare health professionals to meet changing patient needs and expectations, and to practice more effectively within changing health care systems. The settings in which students are traditionally trained (i.e., academic health centers) increasingly do not reflect those in which they will eventually practice (e.g., outpatient, and managed care settings). UC campuses have had to revise their curricula and continue to expand programs to adapt to ongoing changes in the organization and delivery of health services. Case-based learning, small group instruction, ongoing curricular change, and use of technology and informatics prepare students to work in a variety of settings using integrative, interdisciplinary disease management models. The move away from lecture halls to small group instruction and ambulatory care settings, consequently, requires greater numbers of faculty and new and improved facilities for teaching.

Calculating Expenditures for STEM Disciplines

To calculate total educational expenditures related to STEM disciplines, the University first identified direct expenditures in the Instruction function for STEM disciplines. Expenditures in non-space-related functional areas (e. g., academic support, student services, etc.) were calculated using the proportion of student credit hours (SCH) in STEM courses, not SCH associated with students in STEM majors, since students in all majors take both STEM and non-STEM coursework. The expenditures in space-related functions – OMP, depreciation, and interest – follow standard industry estimates[6].

Expenditures per STEM versus non-STEM students are counterintuitively similar. While conventional wisdom is that the additional laboratory requirements for STEM majors must increase the cost on a per-student basis for STEM students, class size is also typically larger for STEM classes than for disciplines requiring significant faculty interaction, such as language and writing classes.

[6] Depreciation is determined via financial reports that include all fund types. A portion is then attributed to UC General Funds, but not Tuition and Fees, because Fees are not used for debt service. Additionally, the STEM calculation uses a greater proportion of the space-related costs, so the result of decreases in OMP expenditures is amplified in the STEM figures.

Table 4.1: 2014-15 Expenditures for Instruction – STEM and Non-STEM Fields (per student) – Narrow Definition

	State General Funds	Tuition and Fees	Nonresident Tuition	Other UC General Funds	Subtotal Core Funds	All Other Funds	Total, All Funds
STEM							
Undergraduate	$7,048	$5,793	$2,579	$1,280	$16,700	$4,683	**$21,383**
Graduate	$11,982	$9,858	$4,383	$2,176	$28,400	$8,000	**$36,400**
Non-STEM							
Undergraduate	$6,024	$6,877	$2,204	$1,094	$16,200	$5,310	**$21,510**
Graduate	$10,210	$11,700	$3,736	$1,855	$27,500	$9,100	**$36,600**

Table 4.2: 2014-15 Expenditures for Instruction – STEM and Non-STEM Fields (per student) – Broader Definition

	State General Funds	Tuition and Fees	Nonresident Tuition	Other UC General Funds	Subtotal Core Funds	All Other Funds	Total, All Funds
STEM							
Undergraduate	$7,948	$12,300	$2,908	$1,444	$24,600	$4,283	**$28,883**
Graduate	$14,346	$21,100	$5,249	$2,606	$43,300	$14,499	**$57,799**
Non-STEM							
Undergraduate	$6,850	$13,300	$2,506	$1,244	$23,900	$4,508	**$28,408**
Graduate	$12,019	$22,700	$4,398	$2,183	$41,300	$13,601	**$54,901**

V. NACUBO METHODOLOGY FOR CALCULATING EXPENDITURES FOR INSTRUCTION

The NACUBO cost model represents an effort by the National Association of College and University Business Officers to develop a framework that colleges and universities can use to develop their own estimated expenditures for undergraduate education in a manner that is simple, transparent, and easy to comprehend. NACUBO believes that its methodology allows an institution to make meaningful and helpful comparisons of expenditures over time, but cautions that the methodology "…was not designed to be a mechanism for collecting national data on college costs or creating industry benchmarks."

NACUBO provides two sets of general instructions for applying its methodology: one for institutions (like UC) that prepare and submit periodic indirect cost rate proposals based on OMB Circular A-21 to the Federal government and one for those that do not. In developing its preliminary expenditure for instruction estimates, UC used the first set of instructions. This approach has the advantage of using expenditure figures that were previously compiled and vetted by each UC campus prior to the indirect cost rate negotiations with the Federal government. It does, however, pose two challenges:

- Campuses do not prepare these cost rate studies annually. Among UC campuses, the most recent studies ranged from 2009-10 to 2014-15. To address this issue, UC inflation-adjusted figures from older studies to obtain estimated 2014-15 figures.

- UCOP cannot, by itself, identify certain campus-level expenditure figures that are excluded from those studies but which NACUBO directs institutions to add back for purposes of applying its formula. In particular, UCOP cannot reliably include expenditures classified by NACUBO as "institutional and community costs" (described below) when applying the NACUBO methodology.

Due to these challenges, the NACUBO-based figures presented below should be considered to be preliminary, partial estimates that, by necessity, understate the expenditure figures that would have resulted from a more complete implementation of the NACUBO methodology. Institutional and community costs will be included in the 2018 edition of this report, which is the first year in which the University is required to include figures based upon the NACUBO methodology.

NACUBO Cost Categories

NACUBO provides a template for institutions to use when preparing their cost estimates. The template groups expenditures into three categories:

- *Instruction and Student Services:* Instruction and student services costs include the core educational expenses related to faculty effort, student services such as advising, and administrative effort directly related to academic programs. In addition to the direct costs of each of these components, this category includes the allocated costs for general administration, facilities operations, and depreciation of plant and equipment.
- *Institutional and Community Costs:* The category includes the costs of extracurricular cultural activities and facilities (e.g., museums, theaters, and performing arts centers), religious programs and facilities, and athletic and recreational programs, as well as gardens, arboretums, and similar entities that contribute directly and indirectly to the educational experience of an undergraduate.
- *Financial Aid Costs:* The financial aid costs included in the methodology consist of all institutional grants, whether from unrestricted or restricted sources, but not federal and state grants administered through the institution. Student loans are excluded, regardless of source.

In calculating per-student figures, NACUBO suggests that institutions use a weighting factor of 1.25 for graduate students but allows institutions to use a different weight if appropriate. As noted earlier in this report, the University estimates that the more appropriate weight for graduate students is 1.7. For purposes of this report, NACUBO estimates using both weights – 1.25 and 1.7 – are provided.

For this year's exploratory exercise in applying the NACUBO methodology, line items under the Institutional and Community Costs section were not included for reasons described above. The resulting partial estimates are shown in the table below. Actual costs under the NACUBO methodology would be higher. Complete NACUBO templates are included in Appendix Tables IVa and IVb.

NACUBO indicates that its methodology is only to be used for estimating undergraduate instructional expenses and provides no mechanism for distinguishing between academic disciplines or fund sources. As a result, figures for graduate students and separate figures for STEM vs. non-STEM instruction are not available. Figures below represent all fund sources.

Table 5: 2014-15 Expenditures for Instruction (Partial) – NACUBO Methodology

Student Level	Using 1.25x Weight for Graduate Students	Using 1.7x Weight for Graduate Students
Undergraduate		
Instruction and Student Services	$25,454	$23,441
Institutional and Community Costs[7]	N/A	N/A
Financial Aid Costs	$4,965	$4,965
Total (Excl. Institutional and Community Costs)	$30,419	$28,406
Graduate students[8]	N/A	N/A

VI. HISTORICAL METHOD FOR REPORTING THE AVERAGE EXPENDITURES FOR INSTRUCTION

Historically, the University has calculated a systemwide Average Expenditures for Instruction estimate based on a long-standing methodology developed by the California Postsecondary Education Commission (CPEC), UC, CSU, and CCC to identify resources available to support basic educational costs for general campus programs. This methodology is consistent, easily replicable, minimizes the use of assumptions and proxies, and is considered by UC to be a reliable, accurate reflection of expenditures for instruction.

The calculation results in the estimated total funding from core funds (State General Funds, revenue from student tuition and fees, and UC General Funds) on a per-student basis that is available to support instruction (faculty salaries and benefits, instructional support, instructional equipment and technology) and other activities such as libraries, student services, administration, and operation and maintenance of facilities. It excludes financial aid, which is treated in the standard CPEC methodology as an expenditure to support access, not as an expenditure to provide the instructional program. Health sciences instruction, research, and public service expenditures, as well as related expenses for support activities, are excluded.

The University continues to rely on the negotiated Average Expenditures for Instruction methodology to depict trends in per-student expenditures over time and their implications for students, academic quality, and the University as a whole.[9] The methodology does not, however, lend itself to disaggregated estimates for undergraduate vs. graduate students, STEM vs. non-STEM expenditures, or other breakouts required by Section 92670.

[7] Not available for 2016 report. Will be included in 2018 and later reports.
[8] NACUBO provides no method for calculating education expenses for graduate students.
[9] See, for example, pages 18-19 of the *2016-17 Budget for Current Operations* at http://www.ucop.edu/operating-budget/_files/rbudget/2016-17budgetforcurrentoperations.pdf.

VII. EXPENDITURES FOR EDUCATION VS. COST OF EDUCATION

While this report is focused on what the University is actually spending on instruction, it is important to recognize that actual expenditures on instruction do not represent the *cost* of educating students – i.e., what the University *should* be spending to support its core academic programs. Several indicators highlight this point:

- **A rising student-faculty ratio**. The University's current budgeted student-faculty ratio as agreed to with the State is 18.7:1. In contrast, the actual ratio in 2015-16 was estimated at just over 21:1.
- **A growing market gap in faculty salaries**. A recently completed total remuneration study of UC general campus ladder-rank faculty conducted by independent consultants concluded that salary and benefits for UC ladder rank faculty lag the market by 10%. When benefits are not considered, Faculty salaries across the UC system lag an average of 11.6%.
- **Graduate student support**. A systemwide survey conducted in Spring 2013 indicated that the net stipend offered by UC to students admitted to its academic doctoral programs lagged offers from students' top-choice, non-UC institutions by an average of $1,400.
- **Instructional equipment and technology.** Investments above current levels are needed to keep pace with the equipment and technology that are essential to preparing students to meet the workforce needs of a technology-driven modern economy.
- **Building maintenance.** UC maintains more than 60 million square feet of space eligible for State supported maintenance, nearly 60% of which was constructed more than 30 years ago. Maintenance costs increase as facilities age. Similarly, as programmatic needs evolve, UC must maintain an increasing proportion of facilities with complex mechanical systems to support instructional programs focused on disciplines in STEM disciplines. These facilities are also more expensive to maintain than ordinary classroom facilities

Appendix I: Education Code Section 92670

ARTICLE 7.5. Expenditures for Undergraduate and Graduate Instruction and Research Activities

92670. (a) The University of California shall report biennially to the Legislature and the Department of Finance, on or before October 1, 2014, and on or before October 1 of each even-numbered year thereafter, on the total costs of education at the University of California.

(b) The report shall identify the costs of undergraduate education, graduate academic education, graduate professional education, and research activities. All four categories listed in this subdivision shall be reported in total and disaggregated separately by health sciences disciplines, disciplines included in paragraph (13) of subdivision (b) of Section 92675, and all other disciplines. For purposes of this report, research for which a student earns credit toward his or her degree program shall be identified as undergraduate education or graduate education.

(c) The costs shall also be reported by fund source, including all of the following:

(1) State General Fund.

(2) Systemwide tuition and fees.

(3) Nonresident tuition and fees and other student fees.

(4) University of California General Funds, including interest on General Fund balances and the portion of indirect cost recovery and patent royalty income used for core educational purposes.

(d) For any report submitted under this section before January 1, 2017, the costs shall, at a minimum, be reported on a systemwide basis. For any report submitted under this section on or after January 1, 2017, the costs shall be reported on both a systemwide and campus-by-campus basis.

(e) A report prepared under this section on or after January 1, 2017, shall include information on costs, disaggregated by campus, based on the methodology developed by the National Association of College and University Business Officers in its February 2002 report, Explaining College Costs, and other methodologies determined by the university.

(f) A report to be submitted pursuant to this section shall be submitted in compliance with Section 9795 of the Government Code.

(g) Pursuant to Section 10231.5 of the Government Code, the requirement for submitting a report under this section shall be inoperative on January 1, 2021, pursuant to Section 10231.5 of the Government Code.

(Amended by Stats. 2016, Ch. 24, Sec. 25. Effective June 27, 2016.)

Appendix Table II: Narrow Methodology (Dollars in Thousands)	Total	STEM	Non-STEM
Undergraduate			
General Funds TOTAL	$2,493,447	$1,135,749	$1,357,924
State General Funds	$1,611,266	$733,921	$877,491
UC General Funds	$882,181	$401,828	$480,433
Nonresident Tuition	$589,513	$268,519	$321,047
Other UC General Funds	$292,668	$133,308	$159,386
Student Tuition and Fees	$1,599,717	$603,194	$1,001,746
Core Funds	$4,093,163	$1,738,944	$2,359,670
All Funds	$5,359,650	$2,226,586	$3,133,046
General Campus Graduate			
General Funds	$600,797	$271,546	$327,001
State General Funds	$388,235	$175,473	$211,308
UC General Funds	$212,562	$96,073	$115,693
Nonresident Tuition	$142,043	$64,200	$77,311
Other UC General Funds	$70,518	$31,873	$38,382
Student Tuition and Fees	$385,217	$144,364	$242,146
Core Funds	$986,014	$415,911	$569,147
All Funds	$1,289,947	$533,068	$757,483
Health Science Graduate			
General Funds	$750,014		
State General Funds	$484,659		
UC General Funds	$265,355		
Nonresident Tuition	$177,322		
Other UC General Funds	$88,033		
Student Tuition and Fees	$205,831		
Core Funds	$955,844		
All Funds	$3,556,925		

Appendix Table III: Broader Methodology (Dollars in Thousands)	Total	STEM	Non-STEM
Undergraduate			
General Funds TOTAL	$2,822,593	$1,280,779	$1,543,982
State General Funds	$1,823,960	$827,640	$997,721
UC General Funds	$998,633	$453,139	$546,260
Nonresident Tuition	$667,331	$302,808	$365,036
Other UC General Funds	$331,301	$150,331	$181,225
Student Tuition and Fees	$3,222,252	$1,280,779	$1,937,260
Core Funds	$6,044,845	$2,561,558	$3,481,242
All Funds	$7,145,373	$3,007,530	$4,137,911
General Campus Graduate			
General Funds	$710,354	$325,113	$384,950
State General Funds	$459,031	$210,088	$248,755
UC General Funds	$251,323	$115,025	$136,195
Nonresident Tuition	$167,945	$76,865	$91,012
Other UC General Funds	$83,378	$38,160	$45,183
Student Tuition and Fees	$777,502	$309,004	$469,805
Core Funds	$1,487,856	$634,117	$854,756
All Funds	$1,924,140	$846,447	$1,136,246
Health Science Graduate			
General Funds	$865,617		
State General Funds	$559,362		
UC General Funds	$306,255		
Nonresident Tuition	$204,654		
Other UC General Funds	$101,602		
Student Tuition and Fees	$229,797		
Core Funds	$1,095,415		
All Funds	$5,196,523		

Appendix Table IVa: Expenditures for Instruction – NACUBO Cost of College Model (1.25 weighting)

NACUBO Cost of College Project

Annual Undergraduate Educational Costs Per Student Reporting Template

1. General Institution Information

Institution Name and Carnegie Class:	UC Systemwide Total
Contact Name	
Contact Title	
Contact Phone	
Contact e-mail	

Institution Type: [x] Public [ ] Private

Fiscal Year Reported: 2014-15

Price Per Student:

FTE used in this report:

Basis of FTE count: [x] preferred method [ ] other method (describe)

Number of FTE undergraduate students	194,300
Number of FTE graduate students *(not weighted)*	48,688

Did you weight graduate students in this FTE count? [ ] no [x] yes

If yes, indicate weighting factor used [x] 25% [ ] other (indicate weighting)

Category	Cost per Undergraduate
2. Instruction and Student Services	
a. Instruction	$ 15,223
b. Departmental Administration	3,086
c. Student Services	2,566
d. Library	1,126
e. Allocated O. and M. Expenses	1,374
f. Allocated Depreciation: Facilities	811
g. Allocated Depreciation: Equipment	177
h. Allocated Administration (G&A)	1,091
i. Subtotal: *Instruction and Student Services Costs*	$ 25,454
3. Institutional and Community Costs	
a. Cultural, Religious Life and Recreation	Not available for purposes of this preliminary, partial estimate. Will be included in future reports.
b. Museums, Gardens, etc.	
c. Net Cost of Intercollegiate Athletics	
d. Net Cost of Other Auxiliary Operations	
e. Other (Specify)	
f. Allocated Facilities O&M Expenses	
g. Allocated Depreciation: Facilities	
h. Allocated Depreciation: Equipment	
i. Allocated Administration (G&A)	
j. Subtotal: *Institutional and Community Costs*	
4. Undergraduate Financial Aid Costs	
Institutional Resources	$ 4,965
5. Total and Recap of Costs by Component	
a. Instruction and Student Services Costs	$ 25,454
b. Institutional and Community Costs	$ -
c. Financial Aid Costs	$ 4,965
d. *Total Costs:*	$ 30,419

Addendum: Facilities Capital Costs:		
A. Book value of all facilities		$
B. Estimated replacement value of all facilities		$
C. Portion of line B applicable to education		$ -
D. Portion of line C applicable to undergraduates		$ -
E. Divide line D result by number of undergraduates reported above		$ -

Appendix Table IVb: Expenditures for Instruction – NACUBO Cost of College Model (1.7 weighting)

NACUBO Cost of College Project

Annual Undergraduate Educational Costs Per Student Reporting Template

1. General Institution Information

Institution Name and Carnegie Class:	UC Systemwide Total
Contact Name	
Contact Title	
Contact Phone	
Contact e-mail	

Institution Type: [x] Public [ ] Private
Fiscal Year Reported: 2014-15
Price Per Student:

FTE used in this report:

Basis of FTE count: [x] preferred method [ ] other method (describe)
Number of FTE undergraduate students 194,300
Number of FTE graduate students *(not weighted)* 48,688
Did you weight graduate students in this FTE count? [ ] no [x] yes
If yes, indicate weighting factor used [ ] 25% [x] other 1.7 (indicate weighting)

Category	Cost per Undergraduate
2. Instruction and Student Services	
a. Instruction	$ 14,019
b. Departmental Administration	2,842
c. Student Services	2,363
d. Library	1,037
e. Allocated O. and M. Expenses	1,265
f. Allocated Depreciation: Facilities	747
g. Allocated Depreciation: Equipment	163
h. Allocated Administration (G&A)	1,005
i. Subtotal: *Instruction and Student Services Costs*	$ 23,441
3. Institutional and Community Costs	
a. Cultural, Religious Life and Recreation	Not available for purposes of this preliminary, partial estimate. Will be included in future reports.
b. Museums, Gardens, etc.	
c. Net Cost of Intercollegiate Athletics	
d. Net Cost of Other Auxiliary Operations	
e. Other (Specify)	
f. Allocated Facilities O&M Expenses	
g. Allocated Depreciation: Facilities	
h. Allocated Depreciation: Equipment	
i. Allocated Administration (G&A)	
j. Subtotal: *Institutional and Community Costs*	
4. Undergraduate Financial Aid Costs	
Institutional Resources	$ 4,965
5. Total and Recap of Costs by Component	
a. Instruction and Student Services Costs	$ 23,441
b. Institutional and Community Costs	$ -
c. Financial Aid Costs	$ 4,965
d. *Total Costs:*	$ 28,406

Addendum: Facilities Capital Costs:		
A. Book value of all facilities		$
B. Estimated replacement value of all facilities		$
C. Portion of line B applicable to education		$ -
D. Portion of line C applicable to undergraduates		$ -
E. Divide line D result by number of undergraduates reported above		$ -