

UC Five-Year Planning Perspectives and California Workforce Needs

Background

The multi-year Compact¹ shared by Governor Newsom and the University of California includes goals focused on supporting workforce preparedness and high-demand career pipelines. Specifically, the Compact includes a goal to increase the number of students graduating with degrees or credentials in science, technology, engineering, and mathematics (STEM); education or early education; and academic doctoral degrees; by 25 percent by 2026-27. This includes an overarching goal to support high-demand career pipelines for technology, climate action, healthcare, and education.

Every other year the ten UC campuses submit their *Five-Year Planning Perspectives* (*Perspectives*) to the UC Office of the President.² The *2024-2029 Perspectives* report provides detailed information about the UC campuses’ planned program establishments, as well as plans to transfer, consolidate, disestablish, or discontinue undergraduate and graduate degree programs, schools, colleges, and other academic units.

This companion piece to the *2024-2029 Perspectives* report examines these UC campus planned program establishments compared to the state’s workforce needs, including those specified in the Compact. This report leverages employment projections data from the California Employment Development Department (EDD) from 2022 through 2032 (Figure 1). The appendices in this report provide additional details and data tables related to the information in the body of the report.

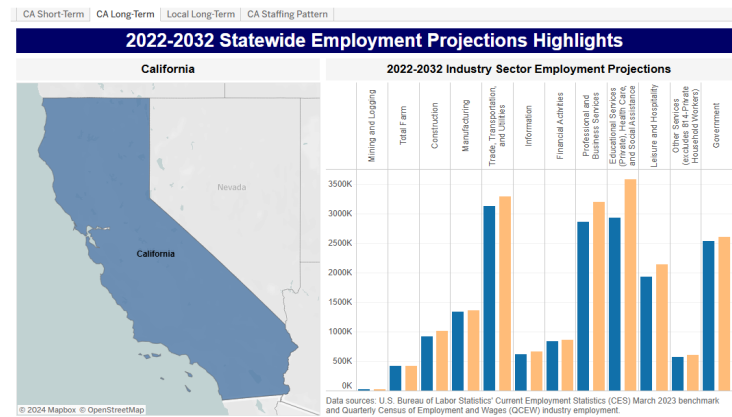
Figure 1. California Employment Development Department (EDD) statewide employment projections dashboard³



Employment Projections

Labor Market Information Resources and Data: [Home](#) | [By Customer](#) | [By Subject](#) | [By Geography](#) | [Data Search Tools](#) | [Online Services](#)

Employment Projections estimate the changes in industry and occupational employment over time resulting from industry growth, technological change, and other factors. California produces long-term (10 year) projections of employment every 2 years for the State and local areas. Statewide short-term (2 year) projections are revised annually.



¹ [UC 2022 Multi-year Compact report](#)

² Visit the [Five-Year Planning Perspectives webpage](#) for additional information about the process and detailed reports from previous planning cycles.

³ California Employment Development Department [Employment Projections dashboard](#)

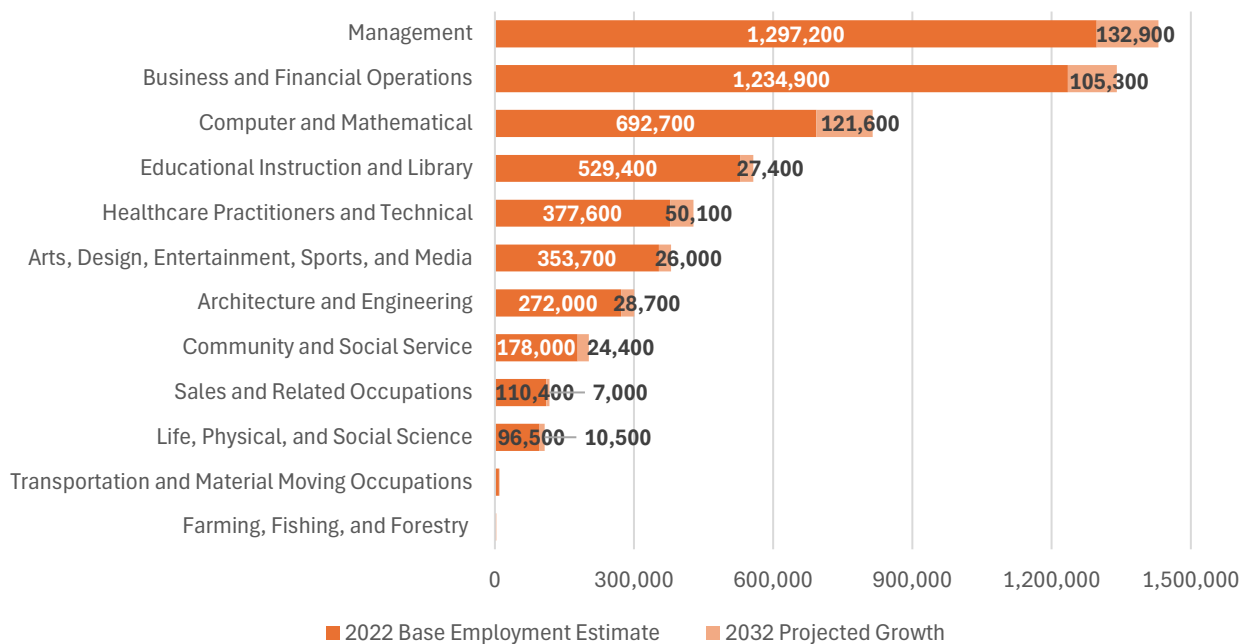
California workforce needs and UC support – undergraduate programs

By 2032, California EDD projects over four million job openings requiring a bachelor’s degree.

The EDD provides occupational employment projections by standard occupational classification (SOC) codes. Table 1 below provides these projections by SOC code for 2022 to 2032.

The leading field for job openings and growth requiring a bachelor's degree is management, including financial managers and medical and health service managers (Figure 2). Business and financial operations, and computer and mathematical occupations ranked second and third for total job openings by 2032. Other key occupations include education; healthcare; arts, design, entertainment, sports, and media; architecture and engineering; and community and social service occupations.

Figure 2. Job openings requiring bachelor’s degrees by major occupational category



Looking at projected job growth, many of these same occupations remain at the top with a slightly shifted order. The top five included management (133,000), computer and mathematical (122,000), business and financial operations (105,000), healthcare practitioners and technical (50,000), and architecture and engineering (29,000). Computer and mathematical occupations move up to second with expected growth for data scientists, information security analysts, and software developers. Healthcare practitioners and technical occupations move up to fourth with most of the expected growth for registered nurses (43,000).

UC’s proposed bachelor’s degree programs align with California workforce needs

Campus submissions for the *Perspectives* include a classification of instructional program (CIP) code for each program (Appendix Table 1). The CIP is a taxonomy of academic programs developed by the US Department of Education to facilitate organization and reporting of programs across institutions. The Bureau of Labor Statistics and the National Center for Education Statistics have produced a CIP-SOC crosswalk tool to connect postsecondary programs to potential occupations that require the skills and knowledge taught in these programs.

Based on the CIP-SOC mapping⁴, Table 1 provides the number of bachelor’s degree program planning items aligned to EDD data on projected job openings and growth. Appendix Table 2 includes a similar table that details the CIP discipline codes used for this mapping.

Table 1. 2022-2032 Employment Development Department (EDD) occupational employment projections requiring a bachelor’s degree, California statewide

Major SOC Occupational Group	2022 Base Employment Estimate	Job Growth 2022-2032	Projected Employment Estimate 2032	Number of Program Planning Items
Management	1,297,200	132,900	1,430,100	-
Business and Financial Operations	1,234,900	105,300	1,340,200	6
Computer and Mathematical	692,700	121,600	814,300	6
Educational Instruction and Library	529,400	27,400	556,800	9
Healthcare Practitioners and Technical	377,600	50,100	427,700	6
Arts, Design, Entertainment, Sports, and Media	353,700	26,000	379,700	6
Architecture and Engineering	272,000	28,700	300,700	12
Community and Social Service	178,000	24,400	202,400	5
Sales and Related Occupations	110,400	7,000	117,400	-
Life, Physical, and Social Science	96,500	10,500	107,000	31
Transportation and Material Moving Occupations	8,900	1,200	10,100	-
Farming, Fishing, and Forestry	2,300	100	2,400	2
Total	5,153,600	535,200	5,688,800	83

⁴ There are 14 additional undergraduate program planning items with CIP codes that match to various occupations or that were not included in the list of SOC occupational groups requiring a bachelor’s degree (i.e., legal occupations). See Appendix Tables 4 and 5 for additional information.

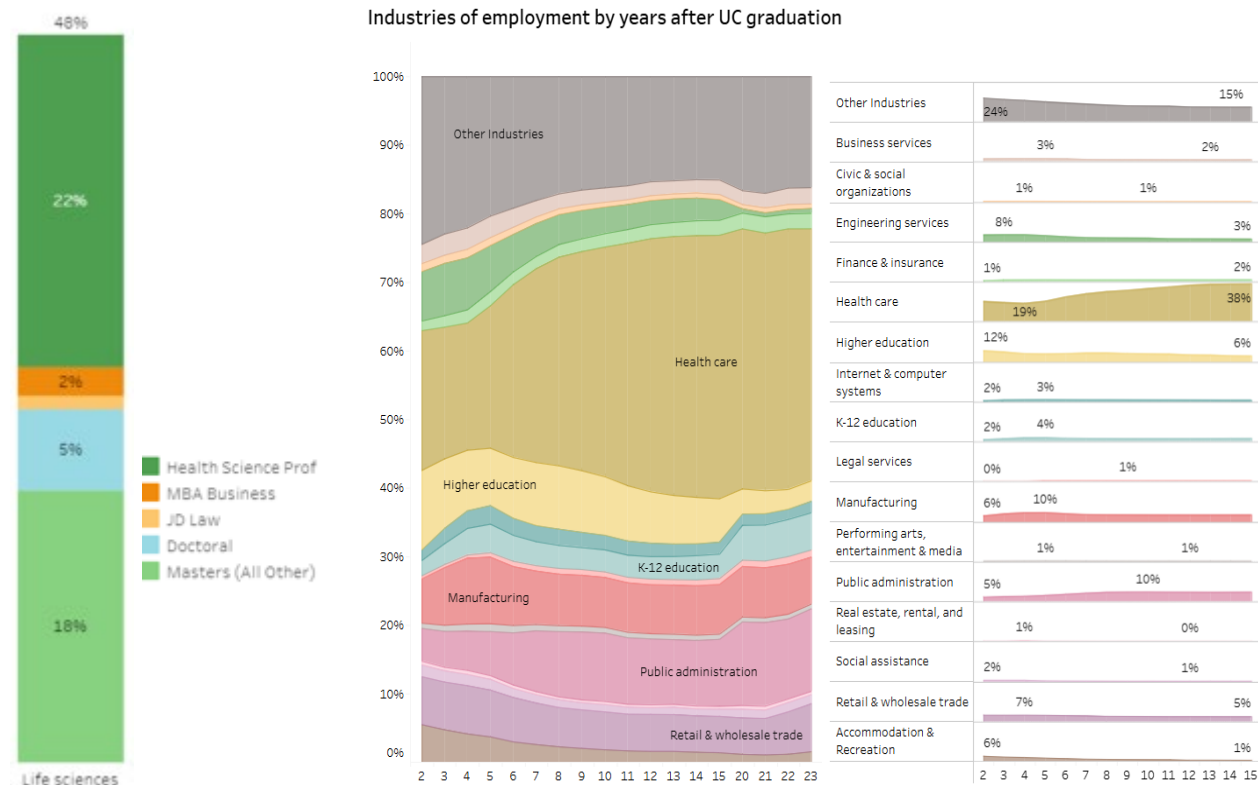
There are several caveats to consider when evaluating this information, particularly for undergraduate programs.

First, Table 1 does not provide information on current UC programs that may have significant and/or increasing enrollment in programs that serve major and growing occupational areas. This information only reflects new degree program planning items for the next five years.

Second, undergraduate programs may also prepare students for graduate programs, not only for direct entry into the workforce. As an example, a significant proportion of UC undergraduates in life science programs, like biology, are preparing to go onto graduate school including medical school. Figure 3 shows that almost half of UC life science bachelor’s degree recipients go onto graduate school and receive a graduate degree, with 22 percent eventually receiving a health science professional degree. In addition, these UC alumni serve multiple industries, especially healthcare.

Figure 3. Comparison of UC UG life science alumni with graduate degrees and industry of employment

UC undergraduate alumni graduate degree attainment



Third, the CIP-SOC mapping doesn’t provide a perfect match between academic program and eventual occupation. As seen with the example above, UC bachelor’s degree recipients in biology work in a variety of industries (and occupations). In addition, many UC undergraduate alumni serve in management positions, even though their undergraduate programs based on CIP codes do not map to the management SOC code.

Despite these limitations, this information does provide a useful way to see how UC proposed programs will support California occupational needs, with some of the following highlights.

Business and financial operations: Of the six undergraduate program planning items, UC Merced proposes a BA in business administration and a BS in accounting. UC Riverside proposes a BS in business analytics. These programs not only address workforce needs, but also student demand that can help these campuses plan to expand access in critical occupational areas in two growing regions of the state.

Computer and mathematical/architecture and engineering: These two occupational areas are combined, in part because the programs often overlap (e.g., computer science and engineering). Of the 18 program planning items, two include data science programs at UCLA and UC Santa Barbara which are in high demand and provide significant occupational opportunities for this new and growing industry. The remaining engineering program planning items include four at UC Merced (BA in agricultural technology, BS in Bioengineering, BS in materials and biomaterials science and engineering) and five at UC San Diego (e.g., BS in Aerospace Engineering and four BS programs in Structural Engineering).

Healthcare practitioners and technical/life, physical, and social science: These two occupational areas are also combined, in part because these programs overlap (e.g., life science undergraduate programs often serve as pre-med programs). It should also be noted the life, physical, and social science grouping includes a broad set of programs that serve a variety of key occupations. These students are also likely to go on to graduate school and receive degrees in critical workforce areas (e.g., 43 percent of physical science UC bachelor's degree recipients acquire a graduate degree with 11 percent receiving PhDs and 5 percent receiving health science professional degrees and 37 percent of social science UC bachelor's degree recipients pursue a graduate degree with six percent receiving JDs and four percent receiving MBAs).

Of the 37 program planning items, 24 are in healthcare and biological/biomedical disciplines which will support California's healthcare needs, including but not limited to two healthcare support programs in the San Joaquin Valley (e.g., BS/MD and BS/PharmD dual degree programs between UC Merced and UC San Francisco), a 4+1 BA/BS and MPH program at UC Irvine, and a 3+2 or 4+1 BA/BS and MPH program at UCLA. The six physical science programs focus on climate change solutions, including two UC Merced BS programs in the science of climate and science of climate change, a BS in atmospheric and oceanic science/mathematics at UCLA, and a BS in earth systems science at UC Davis. For the remaining social science program planning items, seven are at UC San Diego including a BS in economics with econometrics and a BS in economics and business.

Note: The two program planning items in farming, fishing, and forestry also support the state's climate change needs (e.g., BA in environmental studies at UC Riverside and BA in environmentalism and climate change at UC San Diego).

Educational instruction and library: The nine program planning items include a BS/MA in teaching dual degree program in education science at UC Berkeley, a BA in education sciences and history at UC Irvine, and a BA in education and applied psychology at UC Santa Barbara.

When examining by discipline, nearly half of UC undergraduate degree program planning items⁵ support workforce preparedness and high-demand career pipelines as specified in

⁵ There are many factors that play into a student's choice of an academic major and their selection of an occupation after graduation or later in life. It is not a guarantee that a student with a particular major or degree will go into the occupation directly tied to that major. Thus, the connections between academic majors/programs and occupations provided in this report serve only as a general guide. For additional details about the alignment between occupations and academic programs, see Appendix Tables 4 and 5.

the Compact with the Governor. These fields include science, technology, engineering, and mathematics (STEM), and education or early education programs. Of the 97 proposed undergraduate programs, 42 are in STEM areas and two are in education disciplines.⁶

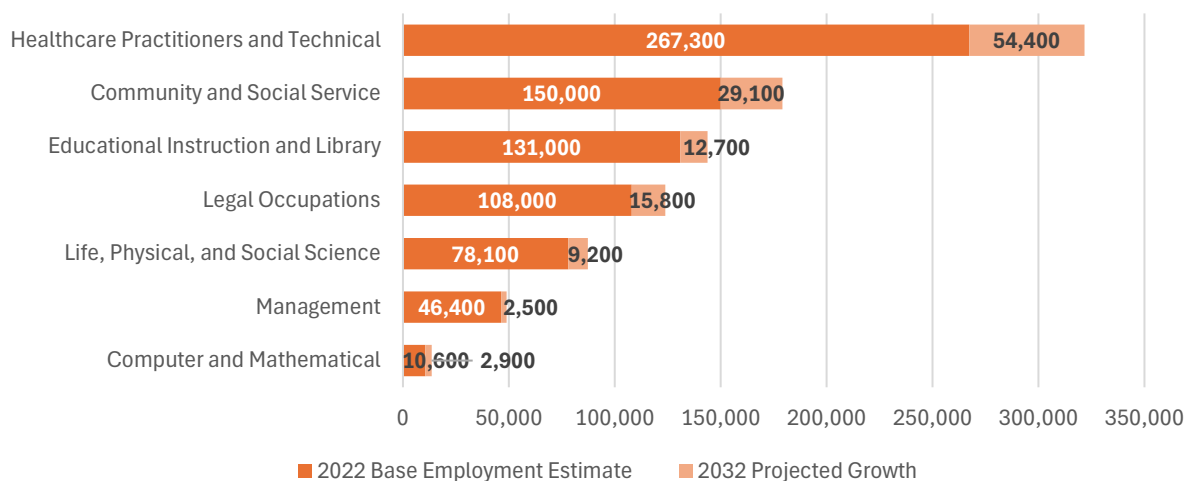
California workforce needs and UC support – graduate programs

By 2032, California EDD projects more than 600,000 job openings that will require a masters, doctoral, or professional degree.

The leading field for job openings and growth requiring a graduate degree is healthcare practitioners, including nurses, physical therapists, physicians, physician assistants, veterinarians, and other healthcare specialists (Figure 4). Counselors, therapists, and social workers rank second, followed by postsecondary teachers, curators, archivists, and instructional coordinators for total job openings by 2032.

Jobs requiring STEM degrees are also expected to grow, including those in life, physical, and social sciences and computer and mathematical occupations. Additionally, legal occupations, particularly lawyers, and management, specifically K-12 and postsecondary administrators, are expected to grow by 2032.

Figure 4. Job openings requiring a masters, doctoral, or professional degree by major occupational category



Looking at projected job growth, the same position types remain at the top with a slightly shifted order. The top five fastest growing occupations requiring graduate-level education include healthcare practitioners and technical (54,000), community and social service (29,000), legal occupations (16,000), educational instruction and library (13,000), and life, physical, and social science (9,000) occupations.

UC currently serves a significant role in supporting state workforce needs requiring graduate degrees.

Currently, among public higher education institutions, UC is the state’s only provider of medical degrees (e.g., D.D.S, M.D., O.D., Pharm.D., and Veterinary Medicine) and is a critical resource for California’s future dentists, doctors, optometrists, pharmacists, and veterinarians. The

⁶ See Appendix Table 1 for planned UC program establishments by disciplinary category and degree level.

California EDD projects the largest amount of job openings (over 54,000) in healthcare occupations by 2032.

In addition, UC is the sole provider of law degrees in public higher education and the California EDD projects 15,800 job openings in these occupations by 2032. UC also has primary responsibility among California public higher education institutions for producing students with academic doctoral degrees or PhDs. California EDD projects over 10,400 job openings for postsecondary instructors requiring a doctoral or professional degree by 2032.

UC planned graduate and professional degree programs support California workforce needs.

Based on the CIP-SOC mapping⁷, Table 2 provides the number of graduate degree program planning items aligned to EDD data on projected job openings and growth. Appendix Table 3 includes a similar table that details the CIP discipline codes used for this mapping.

Table 2. 2022-2032 Employment Development Department (EDD) occupational employment projections requiring a masters, doctoral, or professional degree, California statewide

Major SOC Occupational Group	2022 Base Employment Estimate	Numeric Change 2022-2032	Projected Employment Estimate 2032	Number of Program Planning Items
Healthcare Practitioners and Technical	267,300	54,400	321,700	30
Community and Social Service	150,000	29,100	179,100	8
Educational Instruction and Library	131,000	12,700	143,700	16
Legal Occupations	108,000	15,800	123,800	-
Life, Physical, and Social Science	78,100	9,200	87,300	29
Management	46,400	2,500	48,900	-
Computer and Mathematical	10,600	2,900	13,500	18
Total	791,400	126,600	918,000	101

There is alignment between graduate and professional programs in the 2024-2029 Perspectives and state workforce needs, including the following highlights.

Healthcare practitioners and technical/life, physical, and social science: These two occupational areas are combined, in part because the programs often overlap (e.g., biomedicine). Of the 59 program planning items, 29 are in healthcare disciplines which will support California’s needs for advanced healthcare providers, including three Doctor of Nursing Practice programs at UC Davis and UC San Francisco, two programs in Public Health at UC Merced (MPH) and UC San Diego (PhD), and various other healthcare programs such as veterinary medicine, nutritional science, health and humanities, global and community health, and clinical research. Thirteen of

⁷ There are 60 additional graduate or professional program planning items with CIP codes that match to various occupations or that were not included in the list of SOC occupational groups requiring a masters, doctoral, or professional degree. See Appendix Tables 4 and 5 for additional information.

the planning items are in life sciences disciplines, where there is a focus on biotechnology related programs, including a UC Berkeley MS program in computational biology, three UC Merced MS programs in bioinformatics, biotechnology, and interdisciplinary bioscience and technology, and a master’s of agricultural biotechnology at UC Riverside. The five physical science programs include master’s programs at UC Berkeley, UCLA, UC Merced, and UC Riverside in applied physics, space science and technology, analytical chemistry and analytical sciences, and quantum information systems, respectively. The eight social science programs include three speech and language pathology programs at UC Irvine and two political science programs at UCLA.

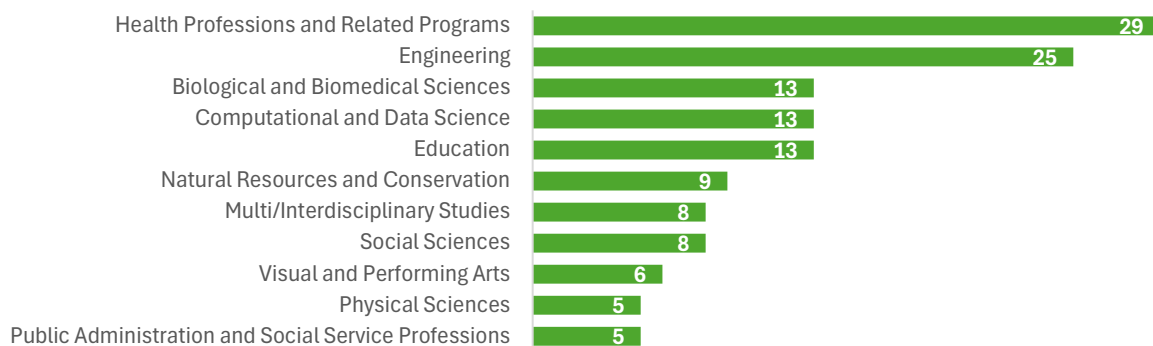
Community and social service: This occupational area includes programs in public administration and social service disciplines that prepare graduate students to analyze, manage, and deliver public programs and services. The five planning items in this area include a Master of Public Policy (MPP) at UC Davis, a Master of Public Administration at UC Irvine, an MA in Global Public Affairs at UCLA, and two public policy programs at UC Riverside (MPP and PhD in Public Policy).

Educational instruction and library: The 13 program planning items include an MA in bilingual education at UC Berkeley, MS and PhD programs in science education at UC Merced, and an MA in clinical mental health and school counseling at UC Riverside.

Computer and mathematical: Of the 18 graduate program planning items, 13 include computational and data science programs at UCLA (MS), UC Merced (MS and PhD), and UC Riverside (MS). The other computer and information science planning items include master’s programs in high demand fields such as machine learning at UC Berkeley, applied artificial intelligence for science and industry at UC Irvine, and cyberinfrastructure at UC Merced.

Almost seventy percent of UC graduate degree program planning items support workforce preparedness and high-demand career pipelines as specified in the Compact with the Governor. Of the 161 planned masters, doctoral, and professional program establishments, 95 are in STEM areas, including 29 programs in health professions and related fields, 25 in engineering, 13 in biological and biomedical sciences and 13 in computational and data sciences (Figure 5). Additionally, 13 of the proposed program establishments are in education and 23 of the planning items are for Ph.D. programs in various fields including, biology, cognitive science, engineering, public health, and urban studies and planning.

Figure 5. Count of UC planning items for graduate and professional program establishments by largest disciplinary categories, 2024-2029 Five-Year Planning Perspectives



While many of UC’s graduate and particularly doctoral programs will be training the next generation of scientists, educators, and innovators to fill some of the jobs projected by the EDD, there is a more significant effect that doctoral programs have on the California workforce. The research that UC doctoral students engage in to advance knowledge is often the basis for the development of new products and industries that drive the high tech, high wage California economy. The expertise and number of employees that this research will create are essential to California’s economic health and future job creation.

Summary

In the *2024-2029 Five-Year Planning Perspectives*, the proposed programs align not only with anticipated state workforce needs based on EDD base and projected job openings over the next decade, but with goals related to the multi-year Compact when looking by discipline.

Proposed programs will meet critical and growing occupational areas, including healthcare, computer and engineering, and education. Programs are focused in growing areas of California, including at UC Merced and UC Riverside; advancing new industries such as data science; and addressing critical challenges facing the state like climate change.

When examining Compact growth areas by discipline, especially STEM, including healthcare, and education, particularly PhD programs, UC campuses propose to establish 258 new degree programs (Table 3). Of those programs, 62 percent (161 programs) are STEM, education, or academic doctoral degree programs. Specifically, 53 percent (137 programs) are in STEM areas including healthcare and architecture, six percent (15 programs) are in education, and an additional three percent (9 programs not included in STEM or education) are academic doctoral degree programs.

There are also planned programs, while not in Compact or EDD projected growth areas, that are in disciplines that may prove critical to the state in the future, including 11 planned programs related to environmental science and climate change. The EDD data also shows there will be a need for managers spanning various fields, and UC’s plans to establish more advanced degree programs, could lead to degree recipients becoming managers or administrators in many industries.

Table 3. Degree program planning items, 2024-2029 Perspectives

Field of study – compact categories in blue	Undergraduate degree program planning items	Graduate and professional degree program planning items	Total degree program planning items	% of total
STEM	42	95	137	53%
Education	2	13	15	6%
PhD not included above	-	9	9	3%
Compact total	44	117	161	62%
Other fields	53	44	97	38%
Total	97	161	258	100%

Appendices

Table 1. Five-Year Planning Perspectives 2024-2029 proposed degree program establishments by disciplinary category and degree level (Compact related disciplines highlighted in bold font)

CIP major category code	Disciplinary category	Undergraduate program planning items	Graduate program planning items	Total by discipline
14.0000	Engineering	12	25	37
51.0000	Health Professions and Related Programs	6	29	35
26.0000	Biological and Biomedical Sciences	11	13	24
45.0000	Social Sciences	11	8	19
30.0000	Multi/Interdisciplinary Studies	8	8	16
30.3001	Computational and Data Science	2	13	15
13.0000	Education	2	13	15
40.0000	Physical Sciences	7	5	12
05.0000	Area, Ethnic, Cultural, Gender, and Group Studies	7	3	10
52.0000	Business, Management, Marketing, and Support Services	6	4	10
03.0000	Natural Resources and Conservation	2	9	11
50.0000	Visual and Performing Arts	1	6	7
09.0000	Communication, Journalism, and Related Programs	5	1	6
11.0000	Computer and Information Sciences and Support Services	2	4	6
38.0000	Philosophy and Religious Studies	2	3	5
42.0000	Psychology	2	3	5
44.0000	Public Administration and Social Service Professions	-	5	5
04.0000	Architecture and Related Services	-	3	3
19.0000	Family and Consumer Sciences/Human Sciences	3	-	3
16.0000	Foreign Languages, Literatures, and Linguistics	2	1	3
24.0000	Liberal Arts and Sciences, General Studies and Humanities	2	1	3
27.0000	Mathematics and Statistics	2	1	3
15.0000	Engineering Technologies and Engineering-Related Fields	-	1	1
23.0000	English Language and Literature/Letters	1	-	1
34.0000	Health-Related Knowledge and Skills	-	1	1
54.0000	History	-	1	1
22.0000	Legal Professions and Studies	1	-	1
Total by degree level		97	161	258

Table 2. 2022-2032 Employment Development Department (EDD) occupational employment projections requiring a bachelor's degree, California statewide

Major SOC ⁸ Occupational Group	2022 Base Employment Estimate	Projected Employment Estimate 2032	Numeric Change 2022-2032	Percentage Change 2022-2032	Number of Planning Items / CIP 2-digit category code(s)*
Management	1,297,200	1,430,100	132,900	10.2%	-
Business and Financial Operations	1,234,900	1,340,200	105,300	8.5%	6 52 (Combined with Sales)
Computer and Mathematical	692,700	814,300	121,600	17.6%	6 11, 27, 30.0001
Educational Instruction and Library	529,400	556,800	27,400	5.2%	9 05, 13
Healthcare Practitioners and Technical	377,600	427,700	50,100	13.3%	6 51
Arts, Design, Entertainment, Sports, and Media	353,700	379,700	26,000	7.4%	6 09, 50
Architecture and Engineering	272,000	300,700	28,700	10.6%	12 14
Community and Social Service	178,000	202,400	24,400	13.7%	5 19, 38
Sales and Related Occupations	110,400	117,400	7,000	6.3%	- 52 (Combined with Business)
Life, Physical, and Social Science	96,500	107,000	10,500	10.9%	31 26, 40, 42, 45
Transportation and Material Moving Occupations	8,900	10,100	1,200	13.5%	-
Farming, Fishing, and Forestry	2,300	2,400	100	4.3%	2 03
Total	5,153,600	5,688,800	535,200	10.4%	83

*There are 14 additional undergraduate program planning items with CIP codes that match to various occupations or that were not included in the list of SOC occupational groups requiring a bachelor's degree (i.e., legal occupations). See Appendix Tables 4 and 5 for additional information.

⁸ The 2018 Standard Occupational Classification (SOC) system is a federal statistical standard used by federal agencies to classify workers into occupational categories for the purpose of collecting, calculating, or disseminating data. To facilitate classification, detailed occupations are combined to form 459 broad occupations, 98 minor groups, and 23 major groups (<https://www.bls.gov/soc/>). The SOC major group categories are used in this report.

Table 3. 2022-2032 Employment Development Department (EDD) occupational employment projections requiring a masters, doctoral, or professional degree, California statewide

Major SOC Occupational Group	2022 Base Employment Estimate	Projected Employment Estimate 2032	Numeric Change 2022-2032	Percentage Change 2022-2032	Number of Planning Items / CIP 2-digit category code(s)*
Healthcare Practitioners and Technical	267,300	321,700	54,400	20.4%	30 34, 51
Community and Social Service	150,000	179,100	29,100	19.4%	8 38, 44
Educational Instruction and Library	131,000	143,700	12,700	9.7%	16 05, 13
Legal Occupations	108,000	123,800	15,800	14.6%	-
Life, Physical, and Social Science	78,100	87,300	9,200	11.8%	29 26, 40, 42, 45
Management	46,400	48,900	2,500	5.4%	-
Computer and Mathematical	10,600	13,500	2,900	27.4%	18 11, 27, 30.0001
Total	791,400	918,000	126,600	16.0%	101

*There are 60 additional graduate or professional program planning items with CIP codes that match to various occupations or that were not included in the list of SOC occupational groups requiring a masters, doctoral, or professional degree. See Appendix Tables 4 and 5 for additional information.

Table 4. SOC code and CIP code matches⁵ for planned UC programs, listed by occupational category with most projected job openings by 2032 (Compact related fields shaded in blue)

SOC major occupational category code	SOC major occupational category name	CIP major category code	CIP major category name	Undergraduate program planning items	Graduate program planning items	Total by category
11-0000	Management	many	-	-	-	-
13-0000 41-0000	Business and Financial Operations Sales and Related Occupations	52.0000	Business, Management, Marketing, and Related Support Services	6	4	10
15-0000	Computer and Mathematical	11.0000	Computer and Information Sciences and Support Services	2	4	6
		27.0000	Mathematics and Statistics	2	1	3
		30.3001	Computational and Data Science	2	13	15
29-0000	Healthcare Practitioners and Technical	34.0000	Health-Related Knowledge and Skills	-	1	1
		51.0000	Health Professions and Related Clinical Sciences	6	29	35
25-0000	Educational Instruction and Library	05.0000	Area, Ethnic, Cultural, Gender, and Group Studies	7	3	11
		13.0000	Education	2	13	15
21-0000	Community and Social Service	19.0000	Family and Consumer Sciences/Human Sciences	3	0	3
		38.0000	Philosophy and Religious Studies	2	3	5
		44.0000	Public Administration and Social Service Professions	0	5	5
27-0000	Arts, Design, Entertainment, Sports, and Media	09.0000	Communication, Journalism, and Related Programs	5	1	6
		50.0000	Visual and Performing Arts	1	6	7
17-0000	Architecture and Engineering	04.0000	Architecture and Related Services	-	3	3
		14.0000	Engineering	12	25	37
		15.0000	Engineering Technologies/ Technicians	-	1	1
19-0000	Life, Physical, and Social Science	26.0000	Biological and Biomedical Sciences	11	13	24
		40.0000	Physical Sciences	7	5	12
		42.0000	Psychology	2	3	5
		45.0000	Social Sciences	11	8	19
23-0000	Legal Occupations	22.0000	Legal Professions and Studies	1	-	1
53-0000	Transportation and Material Moving Occupations	49.0000	Transportation and Materials Moving	-	-	-
45-0000	Farming, Fishing, and Forestry	01.0000	Agriculture, Agriculture Operations, and Related Sciences	-	-	-
		03.0000	Natural Resources and Conservation	2	9	11
Total by degree level				84	150	234

Table 5. CIP major categories⁹ for planned UC programs with matches to many occupations

CIP major category code	CIP major category name	Undergraduate program planning items	Graduate program planning items	Total
30.0000	Multi/Interdisciplinary Studies	8	8	16
16.0000	Foreign Languages, Literatures, and Linguistics	2	1	3
24.0000	Liberal Arts and Sciences, General Studies and Humanities	2	1	3
23.0000	English Language and Literature/Letters	1	-	1
54.0000	History	-	1	1
Total		13	11	24

⁹ The match between 2-digit Classification of Instruction Programs (CIP) codes and 2-digit Standard Occupational Classification (SOC) codes is based on the content of CIP code and SOC code descriptions. The most recent CIP code series (2020) and SOC code series (2018) were used. The 2-digit CIP series best describes the content of the academic program (e.g., Education), while the 6-digit series best describes the program of study (e.g., Elementary Education and Teaching). The 2-digit SOC series describes major occupational categories (e.g., Computer and Mathematical Occupations), while the 6-digit series describes detailed occupations (e.g., Computer Systems Analyst, Statistician, Data Scientist). The CIP-SOC Crosswalk created by the Bureau of Labor Statistics and the National Center for Education Statistics provides more detailed matches based on 6-digit CIP codes and 6-digit SOC codes (<https://nces.ed.gov/ipeds/cipcode/post3.aspx?y=56>).