College of Natural Sciences and Mathematics:
2020 Occupational Trends and Outlook

Overview

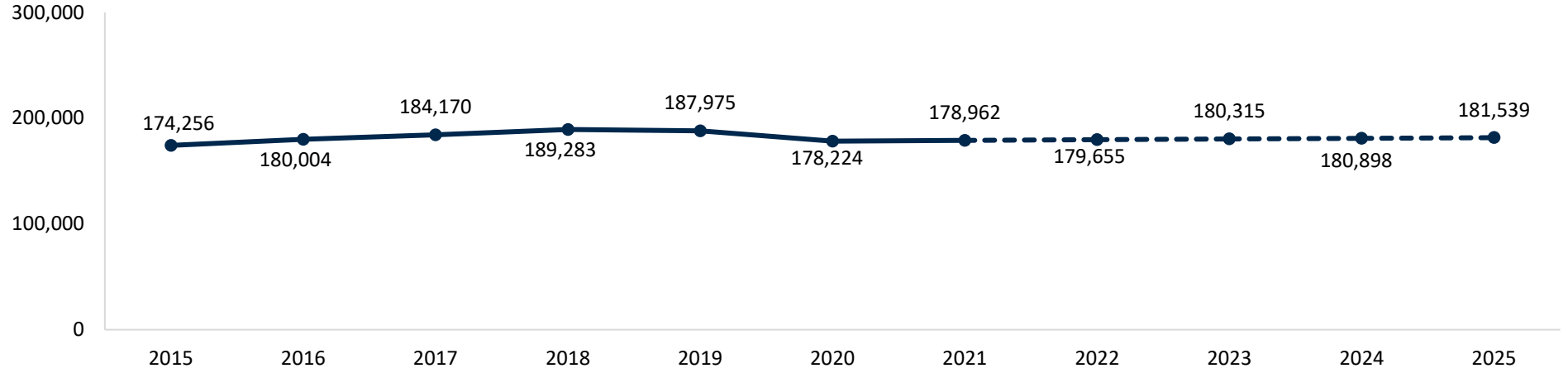
The CSUF 2020 Occupational Trends and Outlook report examines trends and outlook in occupations within the counties surrounding California State University, Fullerton (CSUF), and compares trends for occupations that can be served by CSUF, at the institutional level, to those that are not served by CSUF. The trend shows an 8% growth in jobs from 2015 to 2019 before experiencing a 7% decrease in jobs in 2020, which coincides with the COVID-1- pandemic. Though there is expected to be a recovery in jobs, the growth is projected to be slow, at 2.6%, between 2020 and 2025. Similar trends are observed when looking at jobs by typical level of entry education: Bachelor's, Master's and Doctoral or professional degree.

This report looks more closely at the trend in jobs that can be served by CSUF's College of Natural Sciences and Mathematics. The data for this report have been compiled by Economic Modeling (EMSI), which utilizes various labor market data from government sources (e.g., US Census Bureau, Bureau of Labor Statistics), as well as real-time labor market data (e.g., job advertisements posted by employers, online profiles and resumes created by job seekers and students). Reports utilize the program-to-occupation mapping Emsi developed based on the CIP-to-SOC crosswalk developed by the National Center for Education Statistics and the U.S. Bureau of Labor Statistics[1]. To identify jobs that the College can serve, each CIP is mapped to SOC codes for which the program can prepare students.

Trend in Jobs Served by CSUF at the College Level: College of Natural Sciences and Mathematics

Figure 1 shows a projected increase in jobs that require at least a Bachelor's degree that can be served by students who graduate from CSUF's College of Natural Sciences and Mathematics. Overall, the number of jobs served by the College increased by 8% between 2015 and 2019 before facing a 5% decline in 2020. Job growth is projected to be gradual, at 2%, between 2020 and 2025.

Figure 1. Trend in Jobs that Require at Least a Bachelor's Degree Served by the College of Natural Sciences and Mathematics, 2015-2025



[1] Please note this crosswalk may not entirely reflect the career pathways that are relevant for the College's graduates. Please feel free to consult with the Office of Assessment and Institutional Effectiveness to revise this report with CIP-to-SOC mappings that more accurately reflect career pathways for students served by the College.

Trends in Jobs that Require a Bachelor's Degree

Figure 2 shows a projected increase in jobs that require a Bachelor's degree that can be served by students who graduate from CSUF's College of Natural Sciences and Mathematics. The number of jobs served by the College increased by 8% between 2015 and 2019 before experiencing a 5% decrease in 2020. Job growth of 2% is anticipated between 2020 and 2025.

Figure 2. Trend in Jobs that Require a Bachelor's Degree Served by College of Natural Sciences and Mathematics, 2015-2025

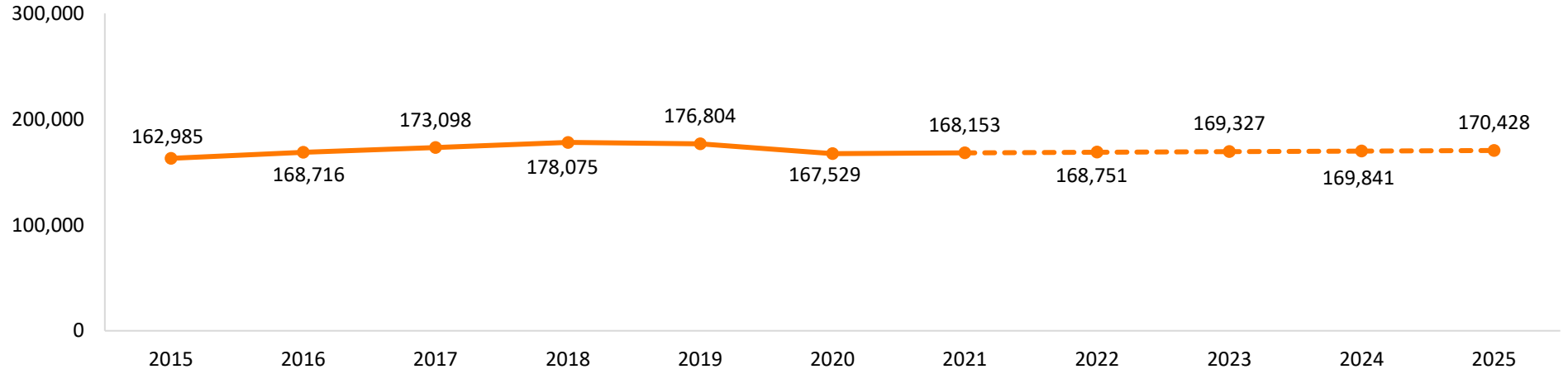


Table 1. Jobs that Require Bachelor's Degree Served by College of Natural Sciences and Mathematics, 2015-2025

SOC	Occupation	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
11-3051	Industrial Production Managers	9,006	8,842	8,872	9,260	9,233	8,660	8,542	8,442	8,350	8,268	8,210
11-9041	Architectural and Engineering Managers	10,851	10,488	10,527	11,597	12,226	12,181	12,141	12,103	12,064	12,027	11,991
11-9121	Natural Sciences Managers	1,820	1,817	1,713	1,732	1,767	1,949	1,964	1,979	1,990	1,999	2,003
15-1299	Computer Occupations, All Other	13,660	17,860	22,327	26,732	26,584	24,009	24,117	24,205	24,278	24,341	24,380
15-2011	Actuaries	893	865	818	864	926	841	847	853	860	865	872
15-2031	Operations Research Analysts	4,190	4,715	4,373	3,943	3,661	3,280	3,365	3,440	3,510	3,576	3,630
15-2098	Data Scientists and Mathematical Science Occupations, All Other	1,552	1,384	1,411	1,622	1,704	1,717	1,786	1,845	1,900	1,950	1,994
17-1022	Surveyors	1,430	1,379	1,342	1,343	1,288	1,252	1,278	1,299	1,317	1,333	1,343
17-2031	Bioengineers and Biomedical Engineers	1,287	1,170	1,007	767	620	617	622	625	628	630	630
17-2041	Chemical Engineers	721	723	772	711	680	594	597	597	598	600	601
17-2081	Environmental Engineers	2,868	2,913	2,944	2,876	2,869	2,403	2,415	2,425	2,430	2,437	2,438

SOC	Occupation	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
17-2151	Mining and Geological Engineers, Including Mining Safety Engineers	198	174	168	189	289	378	376	375	374	373	372
17-2161	Nuclear Engineers	519	510	492	172	286	394	393	392	391	391	389
17-2171	Petroleum Engineers	826	830	952	909	1,039	984	988	992	993	995	993
17-2199	Engineers, All Other	5,901	5,810	6,891	8,510	10,097	10,424	10,397	10,372	10,347	10,321	10,295
19-1011	Animal Scientists	46	53	84	126	213	230	230	229	228	228	228
19-1012	Food Scientists and Technologists	564	551	565	519	564	527	533	535	537	538	538
19-1013	Soil and Plant Scientists	539	541	576	687	817	729	730	731	733	736	737
19-1022	Microbiologists	1,079	1,047	933	806	774	858	860	862	863	863	861
19-1023	Zoologists and Wildlife Biologists	404	390	338	332	369	381	390	397	404	411	415
19-1029	Biological Scientists, All Other	2,363	2,518	2,713	3,039	2,863	2,770	2,782	2,791	2,797	2,800	2,800
19-1031	Conservation Scientists	256	257	271	260	243	212	222	231	239	246	251
19-1099	Life Scientists, All Other	610	573	513	525	493	509	511	515	517	520	522
19-2021	Atmospheric and Space Scientists	317	307	327	390	452	493	495	498	500	502	503
19-2031	Chemists	3,659	3,650	3,584	3,599	3,631	3,621	3,637	3,650	3,661	3,667	3,668
19-2032	Materials Scientists	378	440	376	325	217	199	197	197	197	196	196
19-2041	Environmental Scientists and Specialists, Including Health	4,393	3,975	3,568	3,414	3,542	3,455	3,504	3,548	3,587	3,623	3,650
19-2042	Geoscientists, Except Hydrologists and Geographers	1,487	1,369	1,268	1,257	1,254	1,126	1,139	1,150	1,161	1,169	1,173
19-2043	Hydrologists	100	90	100	104	113	97	100	101	103	104	105
19-2099	Physical Scientists, All Other	639	628	646	695	630	652	658	661	665	668	669
19-4021	Biological Technicians	3,144	3,246	2,961	2,842	2,630	2,715	2,737	2,756	2,772	2,782	2,792
19-4092	Forensic Science Technicians	1,195	1,214	1,235	1,288	1,309	1,314	1,343	1,370	1,395	1,419	1,443
25-2022	Middle School Teachers, Except Special and Career/Technical Education	20,135	19,762	19,613	17,934	16,921	16,932	16,995	17,064	17,134	17,192	17,293
25-2031	Secondary School Teachers, Except Special and Career/Technical Education	50,857	53,259	54,126	54,248	51,681	46,717	46,676	46,702	46,777	46,858	47,096
25-4013	Museum Technicians and Conservators	726	779	903	956	1,061	850	854	860	867	874	883

SOC	Occupation	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
29-2018	Clinical Laboratory Technologists and Technicians	13,978	14,247	13,482	13,143	13,422	13,174	13,439	13,664	13,862	14,037	14,157
43-9111	Statistical Assistants	394	338	306	359	337	287	292	296	300	303	305
	Total	**162,985**	**168,716**	**173,098**	**178,075**	**176,804**	**167,529**	**168,153**	**168,751**	**169,327**	**169,841**	**170,428**

Trend in Jobs that Require a Master's Degree

Figure 3 shows a projected increase in jobs that require a Master's degree that can be served by students who graduate from CSUF's College of Natural Sciences and Mathematics. The number of jobs served by the College has been declining by 20% between 2015 and 2020. However, the number of jobs is projected to increase by 12% by 2025.

Figure 3. Trend in Jobs that Require Master's Degree Served by College of Natural Sciences and Mathematics, 2015-2025

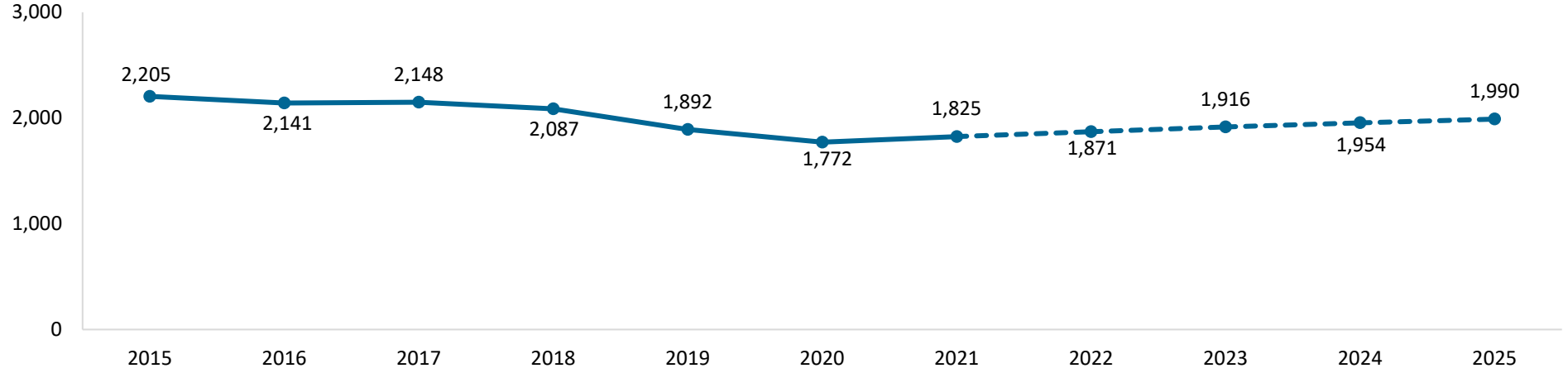


Table 2. Jobs that Require Master's Degree Served by College of Natural Sciences and Mathematics, 2015-2025

SOC	Occupation	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
15-2021	Mathematicians	164	127	134	124	155	128	129	129	130	130	130
15-2041	Statisticians	1,199	1,329	1,330	1,375	1,235	1,152	1,198	1,238	1,277	1,311	1,343
19-1041	Epidemiologists	198	195	235	233	241	248	253	257	261	265	268
19-3022	Survey Researchers	645	491	450	355	262	244	245	246	248	248	248
	Total	**2,205**	**2,141**	**2,148**	**2,087**	**1,892**	**1,772**	**1,825**	**1,871**	**1,916**	**1,954**	**1,990**

Trend in Jobs that Require a Doctoral Degree

Figure 4 shows a projected increase in jobs that require a doctoral degree in disciplines offered by CSUF's College of Natural Sciences and Mathematics. There was an ebb and flow in the number of jobs requiring a doctoral degree that could be served by the College between 2015 and 2020. The rate of growth in the number of jobs is projected to increase between 2020 and 2025, by 2%.

Figure 4. Trend in Jobs that Require Doctoral Degree Served by College of Natural Sciences and Mathematics, 2015-2025

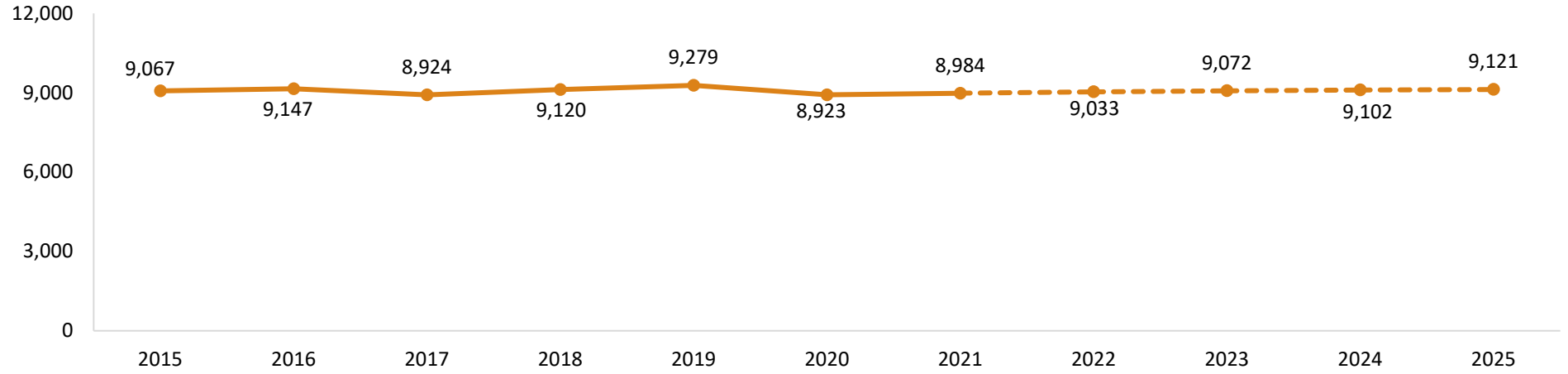


Table 3. Jobs that Require Doctoral Degree Served by College of Natural Sciences and Mathematics, 2015-2025

SOC	Occupation	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
19-1021	Biochemists and Biophysicists	782	735	595	561	613	739	742	744	745	747	747
19-1042	Medical Scientists, Except Epidemiologists	7,645	7,757	7,667	7,826	7,907	7,460	7,512	7,554	7,587	7,613	7,630
19-2011	Astronomers	92	87	99	119	150	137	137	137	137	137	136
19-2012	Physicists	547	568	564	614	607	587	593	598	603	606	608
	Total	**9,067**	**9,147**	**8,924**	**9,120**	**9,279**	**8,923**	**8,984**	**9,033**	**9,072**	**9,102**	**9,121**