

Program Endorsement Brief: 0102.00/Animal Science
Animal Science Degree
Animal Science Fundamentals Certificate
Livestock Production Management Certificate
Horse Ranch Management Degree, Certificate I, and Certificate II
 Los Angeles/Orange County Center of Excellence, July 2021

Summary Analysis

Program Endorsement:	Endorsed: All Criteria Met <input type="checkbox"/>	Endorsed: Some Criteria Met <input checked="" type="checkbox"/>	Not Endorsed <input type="checkbox"/>
Program Endorsement Criteria			
Supply Gap:	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	
Living Wage: (Entry-Level, 25th)	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Education:	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	
Emerging Occupation(s)			
	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	

The Los Angeles/Orange County Center of Excellence for Labor Market Research (COE) prepared this report to provide Los Angeles/Orange County regional labor market supply and demand data related to five middle-skill occupations:

- *Farmers, ranchers, and other agricultural managers (11-9013);*
- *Agricultural and food science technicians (19-4011);*
- *Animal trainers (39-2011);*
- *Animal caretakers (39-2021); and*
- *First-line supervisors off farming, fishing, and forestry workers (45-1011)*

Middle-skill occupations typically require some postsecondary education, but less than a bachelor's degree.¹ This report is intended to help determine whether there is demand in the local labor market that is not being met by the supply from community college programs that align with the relevant occupations.

¹ The COE classifies middle-skill jobs as the following:

- All occupations that require an educational requirement of some college, associate degree or apprenticeship;
- All occupations that require a bachelor's degree, but also have more than one-third of their existing labor force with an educational attainment of some college or associate degree; or
- All occupations that require a high school diploma or equivalent or no formal education, but also require short- to long-term on-the-job training where multiple community colleges have existing programs.

Based on the available data, there appears to be a supply gap for these five middle-skill occupations in the region. However, 91% of annual job openings having entry-level wages **below** the Los Angeles County living wage, and the majority (97%) of annual openings for the occupations in this report typically require a high school diploma or equivalent. **Therefore, due to some of the criteria being met, the COE endorses this proposed program.** Detailed reasons include:

Demand:

- **Supply Gap Criteria** – Over the next five years, there is projected to be **2,569 jobs available annually** in the region due to new job growth and replacements, **which is more than the 87 awards conferred annually** by educational institutions in the region.
- **Living Wage Criteria** – In Los Angeles County, **the majority (91%) of annual job openings** for these middle-skill occupations have **entry-level wages below the county's living wage** (\$15.04/hour).²
- **Educational Criteria** – In the LA/OC region, **97% of the annual job openings** related to the occupations of interest **typically require a high school diploma or equivalent.**
 - National-level educational attainment data indicates between 22% and 41% of workers in the field have completed some college or an associate degree.

Supply:

- Between 2017 and 2020, **two community colleges** in the LA/OC region issued awards in programs that have historically trained for the occupations of interest, conferring an average of **48 awards.**
- Between 2016 and 2019, **one four-year institution** conferred an average of **39 awards** in related training program(s).

² Living wage data was pulled from California Family Needs Calculator on 7/12/2021. For more information, visit the California Family Needs Calculator website: <https://insightcced.org/2018-family-needs-calculator/>.

Occupational Demand

Exhibit 1 shows the five-year occupational demand projections for the five middle-skill occupations of interest. In Los Angeles/Orange County, the number of jobs related to these occupations is projected to increase by 4% through 2024. There will be nearly 2,600 job openings per year through 2024 due to job growth and replacements.

This report includes employment projection data by Emsi which uses EDD information. Emsi's projections are modeled on recorded (historical) employment figures and incorporate several underlying assumptions, including the assumption that the economy, during the projection period, will be at approximately full employment. To the extent that a recession or labor shock, such as the economic effects of COVID-19, can cause long-term structural change, it may impact the projections. At this time, it is not possible to quantify the impact of COVID-19 on projections of industry and occupational employment. Therefore, the projections included in this report do not take the impacts of COVID-19 into account.

Exhibit 1: Occupational demand in Los Angeles and Orange Counties³

Geography	2019 Jobs	2024 Jobs	2019-2024 Change	2019-2024 % Change	Annual Openings
Los Angeles	12,915	13,327	412	3%	1,978
Orange	3,669	3,855	186	5%	591
Total	16,584	17,182	598	4%	2,569

Wages

The labor market endorsement in this report considers the entry-level hourly wages for the five middle-skill occupations in Los Angeles County, as they relate to the county's living wage. Orange County wages are included below in order to provide a complete analysis of the LA/OC region. Detailed wage information, by county, is included in Appendix A.

Los Angeles County – The majority (91%) of annual openings for these middle-skill occupations have entry-level wages **below** the living wage for one adult (\$15.04 in Los Angeles County). Entry-level hourly wages are in a range between \$12.13 and \$22.83. Three of the occupations in this report (*farmers, ranchers, and other agricultural managers; agricultural and food science technicians; and first-line supervisors of farming, fishing, and forestry workers*) have entry-level wages above the county's living wage. Experienced workers can expect to earn wages between \$18.62 and \$44.90, which are higher than the living wage estimate.

Orange County – The majority (92%) of annual openings for these middle-skill occupations have entry-level wages **below** the living wage for one adult (\$17.36 in Orange County). Entry-level hourly wages are in a range between \$12.00 and \$21.92. Two of the occupations in this report (*farmers, ranchers, and other agricultural managers; and first-line supervisors of farming, fishing, and forestry workers*) have entry-level wages above the county's living wage. Experienced workers can expect to earn wages between \$18.01 and \$42.92, which are higher than the living wage estimate.

³ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Job Postings

Over the past 12 months, there have been 1,895 online job postings related to the five middle-skill occupations. The highest number of job postings were for dog trainers, kennel attendants, kennel assistants, and pet trainers. The top skills were cleaning/bathing/laundry, customer contact/service, and animal care. The top employers, by number of job postings, in the region were VCA Animal Hospitals, PetSmart, and Petco.

It is important to note that the job postings data included in this section reflects online job postings listed in the past 12 months and does not yet demonstrate the impact of COVID-19. While employers have generally posted fewer online job postings since the beginning of the pandemic, the long-term effects are currently unknown.

Educational Attainment

The Bureau of Labor Statistics (BLS) lists the following typically required education levels for the five occupations studied in this report:

- **Associate degree:** *agricultural and food science technicians (19-4011)*
- **High school diploma:** *farmers, ranchers, and other agricultural managers (11-9013); animal trainers (39-2011); animal caretakers (39-2021); and first-line supervisors of farming, fishing, and forestry workers (45-1011)*

In the LA/OC region, the majority of annual job openings (97%) typically require a high school diploma. Additionally, national-level educational attainment data indicates between 22% and 41% of workers in the field have completed some college or an associate degree. Of the 63% of job postings listing a minimum education requirement in Los Angeles/Orange County, 80% (958) requested a high school diploma, 8% (91) requested an associate degree, and 12% (145) requested a bachelor's degree.

Educational Supply

Community College Supply – Exhibit 2 shows the annual and three-year average number of awards conferred by community colleges in the related TOP codes: Agriculture Technology and Sciences, General (0101.00), Animal Science (0102.00), and Equine Science (0102.40). The only two colleges with recent completions in the region are Mt. San Antonio and LA Pierce. Over the past 12 months, there were no other related program recommendation requests from regional community colleges.

Exhibit 2: Regional community college awards (certificates and degrees), 2017-2020

TOP	Program	College	2017-18 Awards	2018-19 Awards	2019-20 Awards	3-Year Average
0101.00	Agriculture Technology and Sciences, General	LA Pierce	1	1	2	1
		Mt San Antonio	1	3	3	2
		LA Subtotal	2	4	5	4
Supply Subtotal/Average			2	4	5	4
0102.00	Animal Science	Mt San Antonio	19	40	33	31
		LA Subtotal	19	40	33	31
Supply Subtotal/Average			19	40	33	31
0102.40	Equine Science	LA Pierce	4	8	7	6
		Mt San Antonio	6	10	5	7
Supply Subtotal/Average			10	18	12	13
Supply Total/Average			31	62	50	48

Non-Community College Supply – For a comprehensive regional supply analysis, it is also important to consider the supply from other institutions in the region that provide training programs for middle-skill occupations. Exhibit 3 shows the annual and three-year average number of awards conferred by this institution in the related Classification of Instructional Programs (CIP) Code: Agribusiness/Agricultural Business Operations (01.0102). Due to different data collection periods, the most recent three-year period of available data is from 2016 to 2019. Between 2016 and 2019, one four-year institution in the region conferred an average of 39 awards annually in related training program(s).

Exhibit 3: Regional non-community college awards, 2016-2019

CIP	Program	Institution	2016-17 Awards	2017-18 Awards	2018-19 Awards	3-Year Average
01.0102	Agribusiness/Agricultural Business Operations	California State Polytechnic Univ.-Pomona	36	48	32	39
Supply Total/Average			36	48	32	39

Appendix A: Occupational demand and wage data by county

Exhibit 4. Los Angeles County

Occupation (SOC)	2019 Jobs	2024 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75th Percentile)
Farmers, Ranchers, and Other Agricultural Managers (11-9013)	1,024	787	(237)	(23%)	84	\$19.72	\$27.10	\$34.82
Agricultural and Food Science Technicians (19-4011)	536	539	3	0%	62	\$15.17	\$18.18	\$25.30
Animal Trainers (39-2011)	1,013	1,063	51	5%	146	\$12.25	\$17.83	\$28.73
Animal Caretakers (39-2021)	10,048	10,662	614	6%	1,648	\$12.13	\$14.06	\$18.62
First-Line Supervisors of Farming, Fishing, and Forestry Workers (45-1011)	294	276	(18)	(6%)	38	\$22.83	\$30.90	\$44.90
Total	12,915	13,327	412	3%	1,978			

Exhibit 5. Orange County

Occupation (SOC)	2019 Jobs	2024 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75th Percentile)
Farmers, Ranchers, and Other Agricultural Managers (11-9013)	399	256	(143)	(36%)	31	\$19.48	\$27.02	\$34.25
Agricultural and Food Science Technicians (19-4011)	185	188	3	2%	22	\$14.73	\$17.65	\$24.59
Animal Trainers (39-2011)	279	297	18	6%	42	\$12.00	\$16.54	\$26.96
Animal Caretakers (39-2021)	2,694	3,014	320	12%	483	\$12.10	\$13.83	\$18.01
First-Line Supervisors of Farming, Fishing, and Forestry Workers (45-1011)	112	100	(12)	(10%)	14	\$21.92	\$29.59	\$42.92
Total	3,669	3,855	186	5%	591			

Exhibit 6. Los Angeles and Orange Counties

Occupation (SOC)	2019 Jobs	2024 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Typical Entry-Level Education
Farmers, Ranchers, and Other Agricultural Managers (11-9013)	1,423	1,043	(380)	(27%)	115	HS diploma or equivalent
Agricultural and Food Science Technicians (19-4011)	721	727	6	1%	84	Associate degree
Animal Trainers (39-2011)	1,292	1,361	69	5%	188	HS diploma or equivalent
Animal Caretakers (39-2021)	12,742	13,676	933	7%	2,131	HS diploma or equivalent
First-Line Supervisors of Farming, Fishing, and Forestry Workers (45-1011)	405	376	(29)	(7%)	52	HS diploma or equivalent
Total	16,584	17,182	598	4%	2,569	

Appendix B: Sources

- O*NET Online
- Labor Insight/Jobs (Burning Glass)
- Economic Modeling Specialists, International (Emsi)
- Bureau of Labor Statistics (BLS)
- Employment Development Department, Labor Market Information Division, OES
- California Community Colleges Chancellor's Office Management Information Systems (MIS)
- California Family Needs Calculator, Insight Center for Community Economic Development
- Chancellor's Office Curriculum Inventory (COCI 2.0)

For more information, please contact:

Luke Meyer, Director
Los Angeles/Orange County Center of Excellence
lmeyer7@mtsac.edu

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