

Labor Market Analysis: 0102.40/Equine Science

Equine Science

Associate of Science (A.S.) degree & Certificate requiring 16 to fewer than 30 semester units

Los Angeles Center of Excellence, June 2023

Summary

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 checked="" type="checkbox"/>	No <input type="checkbox"/>	
Emerging Occupation(s)			
	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>	

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

- **Farmers, Ranchers, and Other Agricultural Managers (11-9013)** Plan, direct, or coordinate the management or operation of farms, ranches, greenhouses, aquacultural operations, nurseries, timber tracts, or other agricultural establishments. May hire, train, and supervise farm workers or contract for services to carry out the day-to-day activities of the managed operation. May engage in or supervise planting, cultivating, harvesting, and financial and marketing activities.¹
- **Animal Trainers (39-2011)** Train animals for riding, harness, security, performance, or obedience, or for assisting persons with disabilities. Accustom animals to human voice and contact, and condition animals to respond to commands. Train animals according to prescribed standards for show or competition. May train animals to carry pack loads or work as part of pack team.²
- **Animal Caretakers (39-2021)** Feed, water, groom, bathe, exercise, or otherwise provide care to promote and maintain the well-being of pets and other animals that are not raised for consumption, such as dogs, cats, race horses, ornamental fish or birds, zoo animals, and mice. Work in settings such as kennels, animal shelters, zoos, circuses, and aquariums. May keep records of feedings, treatments, and animals received or discharged. May clean, disinfect, and repair cages, pens, or fish tanks.³

¹ [Farmers, Ranchers, and Other Agricultural Managers : U.S. Bureau of Labor Statistics \(bls.gov\)](#)

² [Animal Trainers \(bls.gov\)](#)

³ [Animal Caretakers \(bls.gov\)](#)

- **Animal Breeders (45-2021)** Select and breed animals according to their genealogy, characteristics, and offspring. May require knowledge of artificial insemination techniques and equipment use. May involve keeping records on heats, birth intervals, or pedigree.⁴

Middle-skill occupations typically require some postsecondary education, but less than a bachelor's degree.⁵ 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.

Based on the available data, there appears to be a supply gap for these equine-related occupations in the region. While entry-level wages are lower than the self-sufficiency standard wage in both Los Angeles and Orange counties, the national-level educational attainment data indicates between 31% and 38% of *farmers, ranchers, and other agricultural managers, animal trainers, and animal caretakers* in the field have completed some college or an associate degree. **Therefore, due to some of the criteria being met, the LA COE endorses this proposed program.** Detailed reasons include:

Demand:

- **Supply Gap Criteria** – Over the next five years, **4,945 jobs are projected to be available annually** in the region due to new job growth and replacements, **which is more than the three-year average of 48 awards conferred** by educational institutions in the region.
 - However, all four occupations in this report require working with various animals, and not solely horses. Since these occupations do not solely focus on equine occupations, **the number of annual job openings is likely overstated.**
 - Of the 2,703 online job postings within the last 12 months for the occupations in this report, **19 postings mentioned “horses” or “equine”**. The highest number of job postings were for horse caretakers (7 job postings), stable attendants (6 job postings), animal care specialists (2 job postings), ranch hands (2 job postings), and groomers (1 job posting).
- **Living Wage Criteria** – Within Los Angeles County, all four occupations have **entry-level wages below the self-sufficiency standard hourly wage** (\$18.10/hour).⁶
- **Educational Criteria** – The Bureau of Labor Statistics (BLS) lists a **high school diploma** or equivalent as the **typical entry-level education for all four occupations in this report.**
 - However, the national-level educational attainment data indicates between **31% and 38% of farmers, ranchers, and other agricultural managers, animal**

⁴ [Animal Breeders \(bls.gov\)](https://www.bls.gov/occupations/45-2021)

⁵ 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.

⁶ Self-Sufficiency Standard wage data was pulled from The Self-Sufficiency Standard Tool for California. For more information, visit: <http://selfsufficiencystandard.org/california>.

trainers, and animal caretakers in the field have completed some college or an associate degree. While only 15% of *animal breeders* have completed some college or an associate degree, 93% of *animal breeders* in the field have completed an associate degree or less education.

Supply:

- There are **2 community colleges** in the greater LA/OC region that issue awards related to equine science, conferring an average of **48 awards annually** between 2018 and 2021.
- Currently, there are **no non-community college institutions** in the greater LA/OC region that have conferred sub-baccalaureate awards for horse husbandry/equine science and management (CIP 01.0307) programs in the past three years.

Occupational Demand

Exhibit 1 shows the five-year occupational demand projections for these equine-related occupations. In the greater Los Angeles/Orange County region, the number of jobs related to these occupations is projected to increase by 27% through 2026. There will be nearly 5,000 job openings per year through 2026 due to job growth and replacements. It is important to note that all four occupations in this report require working with various animals, and not solely horses. Since these occupations do not solely focus on equine occupations, the data in Exhibit 1 is likely overstated for jobs working with horses.

Exhibit 1: Occupational demand in Los Angeles and Orange Counties⁷

Geography	2021 Jobs	2026 Jobs	2021-2026 Change	2021-2026 % Change	Annual Openings
Los Angeles	15,230	19,127	3,897	26%	3,838
Orange	4,114	5,357	1,243	30%	1,107
Total	19,343	24,484	5,140	27%	4,945

Wages

The labor market endorsement in this report considers the entry-level hourly wages for these equine-related occupations in Los Angeles County as they relate to the county’s self-sufficiency standard wage. Orange County wages are included below in order to provide a complete analysis of the greater LA/OC region. Detailed wage information, by county, is included in Appendix A.

Los Angeles County

All four occupations have entry-level wages below the self-sufficiency standard wage for one adult (\$18.10 in Los Angeles County). Typical entry-level hourly wages are in a range between \$11.90 and \$14.72. Experienced workers can expect to earn wages between \$21.02 and \$30.89, which are higher than the self-sufficiency standard.

⁷ Five-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.

Exhibit 2: Earnings for Occupations in LA County

Occupation	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75th Percentile)	Median Annual Earnings*
Farmers, Ranchers, and Other Agricultural Managers (11-9013)	\$14.00	\$17.14	\$30.89	\$35,600
Animal Trainers (39-2011)	\$11.90	\$16.52	\$25.05	\$34,400
Animal Caretakers (39-2021)	\$14.72	\$15.20	\$21.02	\$31,600
Animal Breeders (45-2021)	\$14.06	\$19.63	\$28.49	\$40,800

*rounded to the nearest \$100

Orange County

All four occupations have entry-level wages below the self-sufficiency standard wage for one adult (\$20.63 in Orange County). Typical entry-level hourly wages are in a range between \$13.53 and \$14.00. Experienced *animal trainers* and *farmers, ranchers, and other agricultural managers* can expect to earn wages between \$23.32 and \$29.11, which are higher than the self-sufficiency standard. However, experienced *animal caretakers* can expect to earn less than the county’s self-sufficiency standard wage (\$18.72). Due to the low number of *animal breeder* jobs in Orange County, wage data is not available.

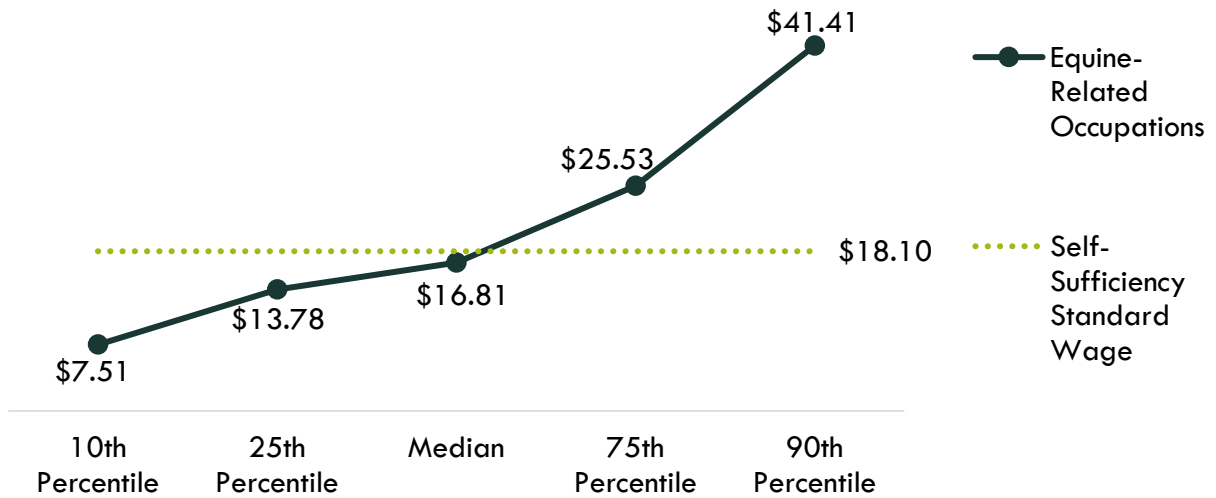
Exhibit 3: Earnings for Occupations in Orange County

Occupation	Entry-Level Hourly Earnings (25th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75th Percentile)	Median Annual Earnings*
Farmers, Ranchers, and Other Agricultural Managers (11-9013)	\$14.00	\$16.65	\$29.11	\$34,600
Animal Trainers (39-2011)	\$13.53	\$15.03	\$23.32	\$31,300
Animal Caretakers (39-2021)	\$14.00	\$14.54	\$18.72	\$30,200
Animal Breeders (45-2021)	Insf. Data	Insf. Data	Insf. Data	Insf. Data

*rounded to the nearest \$100

On average, the entry-level earnings for the occupations in this report are \$13.78; this is below the living wage for one single adult in Los Angeles County (\$18.10). Exhibit 4 shows the average wage for the occupations in this report, from entry-level to experienced workers.

Exhibit 4: Average Hourly Earnings for Equine Occupations in LA/OC



Industries

The North American Industry Classification System (NAICS) is a federal coding system that classifies businesses by type of economic activity. Exhibit 5 lists NAICS codes that are related to horses and equine activities.

Exhibit 5: Horse and equine related NAICS codes

NAICS Title and Code	Corresponding Index Entries
Horse and other Equine Production (112920)	<ul style="list-style-type: none"> Horse (including thoroughbreds) production
Support Activities for Animal Production (115210)	<ul style="list-style-type: none"> Boarding horses (except racehorses) Training horses (except racehorses)
Scenic and Sightseeing Transportation, Land (487110)	<ul style="list-style-type: none"> Carriage, horse-drawn, operation
Veterinary Services (541940)	<ul style="list-style-type: none"> Livestock veterinary services
Other Performing Arts Companies (711190)	<ul style="list-style-type: none"> Horse shows
Racetracks (711212)	<ul style="list-style-type: none"> Horse racetracks
Other Spectator Sports (711219)	<ul style="list-style-type: none"> Horse racing stables Racehorse training
Promoters of Performing Arts, Sports, and Similar Events with Facilities (711310)	<ul style="list-style-type: none"> Horse show managers with facilities Horse show organizers with facilities Horse show promoters with facilities

NAICS Title and Code	Corresponding Index Entries
Promoters of Performing Arts, Sports, and Similar Events without Facilities (711320)	<ul style="list-style-type: none"> • Horse show managers without facilities • Horse show organizers without facilities • Horse show promoters without facilities
All Other Amusement and Recreation Industries (713990)	<ul style="list-style-type: none"> • Horse rental services, recreational saddle • Horseback riding, recreational • Riding stables (except boarding horses) • Saddle horse rental services, recreational

In order to get a better sense of which occupations in this report are represented specifically in horse-related industries, an inverse staffing pattern was conducted. Inverse staffing patterns tell us which industries typically employ an occupation or group of occupations. Exhibit 6 displays which horse-related industries employed the largest number of jobs for the four occupations in this report. In 2023, Veterinary Services (NAICS 541940) employed 1,171 jobs classified as the four occupations in this report in LA/OC. The four occupations in this report make up more than 7% of the Veterinary Services industry the LA/OC region. Nearly one-quarter of jobs in the Support Activities for Animal Production industry (NAICS 115210), which includes horse boarding and horse training, are made up of the four occupations in this report.

Exhibit 6: Equine-Related Occupations within Horse-Related Industries (NAICS), 2021-2026

NAICS Code	Industry	Occupation Group Jobs in Industry (2021)	Occupation Group Jobs in Industry (2026)	Change (2021 - 2026)	% Change (2021 - 2026)	% of Occupation Group in Industry (2022)	% of Total Jobs in Industry (2022)
541940	Veterinary Services	1,171	1,462	292	25%	5.8%	7.4%
711219	Other Spectator Sports	175	148	(27)	(16%)	0.8%	5.6%
115210	Support Activities for Animal Production	151	135	(17)	(11%)	0.7%	23.7%
711212	Racetracks	48	57	10	20%	0.3%	6.9%
711320	Promoters of Performing Arts, Sports, and Similar Events without Facilities	17	16	(1)	(7%)	0.1%	0.3%
711310	Promoters of Performing Arts, Sports, and Similar Events with Facilities	12	22	11	90%	0.1%	0.3%
713990	All Other Amusement and Recreation Industries	11	17	6	54%	0.1%	0.3%
487110	Scenic and Sightseeing Transportation, Land	<10	<10	Insf. Data	Insf. Data	0.0%	0.1%

Exhibit 7 shows the current job counts and five year projected job counts for each of the ten horse-related industries in LA/OC. Veterinary Services is the horse-related industry with the largest number of jobs in the region, with more than 1,000 establishments in LA/OC. It is important to note that the data in Exhibit 7 includes all jobs within the industry, and not solely equine-related jobs. For example, Racetracks (NAICS 711212) includes horse racetracks, as well as automobile racetracks, dog racetracks, drag strips, snowmobile racetracks and speedways. Therefore, the 701 jobs in the Racetracks industry are not comprised solely of equine-related occupations.

Exhibit 7: Horse-Related Industries, All Occupations, 2021-2026

NAICS Code	Industry	2021 Jobs	2026 Jobs	2021 - 2026 Change	2021 - 2026 % Change	2022 Establishments
541940	Veterinary Services	15,909	19,407	3,499	22%	1,003
711320	Promoters of Performing Arts, Sports, and Similar Events without Facilities	5,529	6,012	482	9%	298
713990	All Other Amusement and Recreation Industries	4,504	6,511	2,007	45%	520
711310	Promoters of Performing Arts, Sports, and Similar Events with Facilities	4,297	9,016	4,719	110%	273
711219	Other Spectator Sports	3,292	2,324	(968)	(29%)	226
711212	Racetracks	701	817	116	16%	21
115210	Support Activities for Animal Production	641	569	(71)	(11%)	120
487110	Scenic and Sightseeing Transportation, Land	325	390	65	20%	41
112000	Animal Production	298	219	(79)	(27%)	68
711190	Other Performing Arts Companies	73	94	21	29%	48

Job Postings

Of the 2,703 online job postings within the last 12 months for the occupations in this report, 19 postings mentioned “horses” or “equine”. The highest number of job postings were for horse caretakers (7 job postings), stable attendants (6 job postings), animal care specialists (2 job postings), ranch hands (2 job postings), and groomers (1 job posting). The top skills were disinfecting, horse care, medication administration, wound care/dressing, and animal care. The top three employers, by number of job postings, in the region were Disneyland Resort, Royal Dog Academy, and Camp Kinneret Summer Day Camp. Only two of these job postings listed a minimum level of education, and both of these listings requested a high school diploma or equivalent.

Educational Attainment

The Bureau of Labor Statistics (BLS) lists a high school diploma or equivalent as the typical entry-level education for these equine-related occupations. However, the national-level educational attainment data indicates between 31% and 38% of *farmers, ranchers, and other agricultural managers, animal trainers, and animal caretakers* in the field have completed some college or an associate degree. While only 15% of *animal breeders* have completed some college or an associate degree, 93% of *animal breeders* in the field have completed an associate degree or less education.

Educational Supply

Community College Supply

Exhibit 8 shows the annual and three-year average number of awards conferred by community colleges in the related TOP codes: Animal Science (0102.00) and Equine Science (0102.40). The college with the most completions in the region is Mt. San Antonio. Currently, there are no non-community college institutions in the greater LA/OC region that have conferred sub-baccalaureate awards for horse husbandry/equine science and management (CIP 01.0307) programs in the past three years.

Exhibit 8: Regional community college awards (certificates and degrees), 2018-2021

TOP	Program	College	2018-19 Awards	2019-20 Awards	2020-21 Awards	3-Year Average
0102.00	Animal Science	Mt San Antonio	40	33	24	32
		LA Subtotal	40	33	24	32
	Supply Subtotal/Average		40	33	24	32
0102.40	Equine Science	LA Pierce	8	7	8	8
		Mt San Antonio	10	5	9	8
		LA Subtotal	18	12	17	16
Supply Subtotal/Average		18	12	17	16	
Supply Total/Average			58	45	41	48

Appendix A: Occupational demand and wage data by county

Exhibit 9. Los Angeles County

Occupation (SOC)	2021 Jobs	2026 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
Farmers, Ranchers, and Other Agricultural Managers (11-9013)	1,392	1,437	45	3%	163	\$14.00	\$17.14	\$30.89
Animal Trainers (39-2011)	1,190	1,394	203	17%	239	\$11.90	\$16.52	\$25.05
Animal Caretakers (39-2021)	12,624	16,272	3,648	29%	3,432	\$14.72	\$15.20	\$21.02
Animal Breeders (45-2021)	24	24	0	2%	4	\$14.06	\$19.63	\$28.49
Total	15,230	19,127	3,897	26%	3,838	-	-	-

Exhibit 10. Orange County

Occupation (SOC)	2021 Jobs	2026 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	Entry-Level Hourly Earnings (25 th Percentile)	Median Hourly Earnings	Experienced Hourly Earnings (75 th Percentile)
Farmers, Ranchers, and Other Agricultural Managers (11-9013)	471	359	(113)	(24%)	44	\$14.00	\$16.65	\$29.11
Animal Trainers (39-2011)	302	391	89	30%	71	\$13.53	\$15.03	\$23.32
Animal Caretakers (39-2021)	3,332	4,598	1,266	38%	990	\$14.00	\$14.54	\$18.72
Animal Breeders (45-2021)	<10	<10	Insf. Data	Insf. Data	2	Insf. Data	Insf. Data	Insf. Data
Total	4,114	5,357	1,243	30%	1,107	-	-	-

Exhibit 11. Los Angeles and Orange Counties

Occupation (SOC)	2021 Jobs	2026 Jobs	5-Yr Change	5-Yr % Change	Annual Openings	% Age 55 and older*	Typical Entry-Level Education
Farmers, Ranchers, and Other Agricultural Managers (11-9013)	1,863	1,795	(68)	(4%)	207	44%	HS diploma or equivalent
Animal Trainers (39-2011)	1,492	1,785	293	20%	310	22%	HS diploma or equivalent
Animal Caretakers (39-2021)	15,956	20,870	4,914	31%	4,423	19%	HS diploma or equivalent
Animal Breeders (45-2021)	32	34	2	5%	6	Insf. Data	HS diploma or equivalent
Total	19,343	24,484	5,140	27%	4,945	-	-

*The average percentage of workers age 55 and older across all occupations in the greater LA/OC region is 27%. *Farmers, ranchers, and other agricultural managers* have a larger share of older workers, which typically indicates greater replacements needs to offset the amount of impending retirements.

Appendix B: Sources

- O*NET Online
- Lightcast (formerly Emsi)
- Bureau of Labor Statistics (BLS)
- California Employment Development Department, Labor Market Information Division, OES
- California Community Colleges Chancellor's Office Management Information Systems (MIS)
- Self-Sufficiency Standard at the Center for Women's Welfare, University of Washington
- Chancellor's Office Curriculum Inventory (COCI 2.0)

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