October 30, 2025

Dori Dumon
Associate Professor and Co-Department Chair
Business Applications & Technology
Santa Ana College
1530 W. 17th Street
Santa Ana, CA 92706-3398

Dear Dori Dumon,

Subject: Summary of Labor Market Assessment for Proposed Bachelor's Degree in Artificial Intelligence (AI) for Business

The Orange County Center of Excellence has completed a comprehensive labor market assessment related to Santa Ana College's application to offer a baccalaureate degree in Artificial Intelligence (AI) for Business. This analysis evaluated both the workforce need for graduates in the proposed field and whether a bachelor's degree is required or preferred for entry into the target occupations. The full labor market report is attached for reference.

Summary of Key Findings:

- ☑ **Educational Requirements and Certifications**: According to the Bureau of Labor Statistics (BLS) and job posting data, the targeted occupations typically require a bachelor's degree, with no certification or licensing requirement. This aligns with the educational goals of the proposed program.
- ☑ **Work Experience and Degree Alignment**: The typical work experience expected for related positions within these occupations, as detailed by BLS and job posting information, suggests that candidates with a bachelor's degree are preferred, and 35% of postings that specify experience require 4 to 6 years.
- ☑ **Preference for Bachelor's Degree Holders:** California employers have a preference for related entry-level workers who hold a bachelor's degree as specified by 90% of job posting data listing a bachelor's degree as a minimum requirement for related positions.
- ☑ **Salary Differentials**: The available online job posting data is insufficient for a conclusive analysis on salary differentials.
- ☑ **Job Outlook and Demand**: Job growth for the target occupations is projected at 7% in California and 3% regionally over the next 10 years. Although a simple comparison shows a surplus of average annual awards (12,230) relative to the average annual openings (11,099) for the target occupations, supply is likely overstated. Related educational programs prepare students for nine other applicable occupations, which account for an additional 29,278 annual openings. This indicates the actual market demand is likely greater than the initial figures suggest.
- ☑ **Occupational Wages and Living Wage Comparison**: Entry-level wages for all the targeted occupations exceed the regional living wage benchmark for a single adult;

however, a majority (84%) of annual postings for these occupations have entry-level wages below the living wage for one adult with one infant-aged child.

Conclusion: Mixed – Labor Market Endorsed: Caution Advised
Regional labor market data indicate a likely supply shortage of workers with a baccalaureate degree in Artificial Intelligence (AI) for Business, particularly when accounting for demand from occupations aligned with related educational program. The analysis shows a strong demand for workers in the target occupations, with positive employment projections across the state and a growing number of job openings in the region. Each target occupation offers entry-level wages above the living wage; however, available data showed only one occupation with a higher salary differential for those requiring a bachelor's degree compared to those with an associate degree.

For the detailed analysis of data and findings, please refer to the attached full labor market assessment report. Should you have any questions or require further information, you are welcome to contact us.

Respectfully,

Jesse Crete, Ed.D.
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Baccalaureate Program Labor Market Analysis:
TOP Code: 0501.00 (Business and Commerce, General)
CIP Code: 52.0101 (Business/Commerce, General)
(Artificial Intelligence (AI) for Business)

Orange County Center of Excellence, October 2025

FOR LABOR MARKET RESEARCH
ORANGE COUNTY

Summary

Bachelor's Degree Program Recommendation	Evidence of Regional Supply Gap?	CA Job Outlook	Regional Living Wage	
Endorsed: Caution Advised	Supply Gap Likely	7% Growth	Single Adult	Adult & Infant
	Degree Alignment	**Work Experience**	**CA Salary Differentials**	
	Bachelor's Degree	0 to 5+ Years	- $47.66 to $70.77 More	

The Orange County Center of Excellence for Labor Market Research (OC COE) prepared this report to provide labor market supply and demand data related to Santa Ana College's (SAC's) proposed Artificial Intelligence (AI) for Business baccalaureate degree program. This report examines three above middle-skill occupations, denoted with a caret (^):

- Detailed, Above Middle-Skill Occupations
  - Marketing Managers (11-2021)^
  - Management Analysts (13-1111)^
  - Business Operations Specialists, All Other (13-1199)^

The challenge in analyzing labor market data for this proposed baccalaureate degree stems from the dual role of AI in the labor market. As an emerging field, AI is a tool that is both developed by specialized jobs and utilized by a vast array of occupations across nearly all industries. As of this report's writing, there are no established occupational classifications explicitly dedicated to leveraging AI, and the only existing AI-related TOP or CIP code, is CIP code: 11.0102 Artificial Intelligence and Robotics, which is focused on the engineering and development of AI as opposed to the application of AI tools in business operations. Consequently, the report relies on the closest identified occupations – those aligned with the proposed program per the requesting college and where these skills may be applied – to serve as proxies.

Despite the current data limitations, the available labor market information indicates a likely regional supply gap. While the number of awards appears to meet demand for the program's specific target occupations, this supply figure is likely overstated.

This overstatement is due to the fact that the related educational programs also train for nine additional, high-demand occupations, which collectively account for an extra 29,278 annual openings in the region.

All three proxy occupations align directly with the proposed baccalaureate degree's educational objective, typically requiring a bachelor's degree. Furthermore, these roles are economically compelling: they each offer entry-level wages that exceed the Self-Sufficiency Standard for a single adult in Orange County, and online job postings data shows favorable salary differentials. This program is positioned to provide the targeted education necessary for employment in a nascent and high-potential specialization.

Introduction

Generative AI adoption has become widespread throughout both personal and professional life. Approximately 40% of U.S. adults (aged 18 to 64) use generative AI, and over a quarter of workers (27%) have used it on the job.[1] This rapid integration supports the focus of this proposed baccalaureate degree, as evidenced by a comprehensive 2025 study from Microsoft Research.[2]

The study, which analyzes real-world AI usage across 867 detailed Standard Occupational Classification (SOC) codes, provides specific justification for the occupations selected for this report.[3] For instance, management analyst, one of the specific occupations analyzed here, ranked among the top 40 occupations with the highest AI applicability score.

Furthermore, the three occupations examined in this report belong collectively to the two broader SOC major groups of Business and Financial Operations (ranked 6th in AI applicability) and Management (ranked 12th). These high rankings affirm that the selected occupations are positioned at the forefront of AI-driven workforce transformation.[4]

The OC COE prepared this report in support of SAC's proposed baccalaureate degree in Artificial Intelligence (AI) for Business. Its findings aim to inform the endorsement process and demonstrate the program's relevance to workforce needs in the field.

Exhibit 1 shows the demand, supply, entry-level hourly wages, and percentage of incumbent workers that have completed a bachelor's degree as their highest level of education.

Exhibit 1: Occupational Demand and Supply in Los Angeles/Orange Counties

Occupation (SOC)	Demand (Annual Openings)	Supply (Non-CC)	Entry-Level Hourly Earnings (25th Percentile)	Bachelor's Degree Educational Attainment
Marketing Managers (11-2021)^	LA: 1,206	LA: 804	LA: $53.78	58%
	OC: 480	OC: 56	OC: $53.30	
	TTL: 1,686	*TTL: 860*	*LA/OC: $53.64*	
Management Analysts (13-1111)^	LA: 3,059	LA: 56	LA: $36.18	44%
	OC: 1,288	OC: 698	OC: $34.86	

[1] Alexander Bick, Adam Blandin, and David J. Deming, "The Rapid Adoption of Generative AI," NBER Working Paper no. 32966 (Cambridge, MA: National Bureau of Economic Research, 2025), 10, http://www.nber.org/data-appendix/w32966.
[2] Kiran Tomlinson et al., "Working with AI: Measuring the Applicability of Generative AI to Occupations," Working Paper (2025), 12, http://arxiv.org/abs/2507.07935.
[3] U.S. Bureau of Labor Statistics, "Standard Occupational Classification," accessed October 9, 2025, https://www.bls.gov/soc/.
[4] Tomlinson et al., "Working with AI," 15.

Occupation (SOC)	Demand (Annual Openings)	Supply (Non-CC)	Entry-Level Hourly Earnings (25th Percentile)	Bachelor's Degree Educational Attainment
	TTL: 4,348	*TTL: 754*	*LA/OC: $35.77*	
Business Operations Specialists, All Other (13-1199)^	LA: 3,766	LA: 7,019	LA: $28.74	41%
	OC: 1,300	OC: 3,597	OC: $28.09	
	TTL: 5,066	*TTL: 10,616*	*LA/OC: $28.57*	
Total	**11,099**	**12,230**	**N/A**	**N/A**

Statewide Analysis

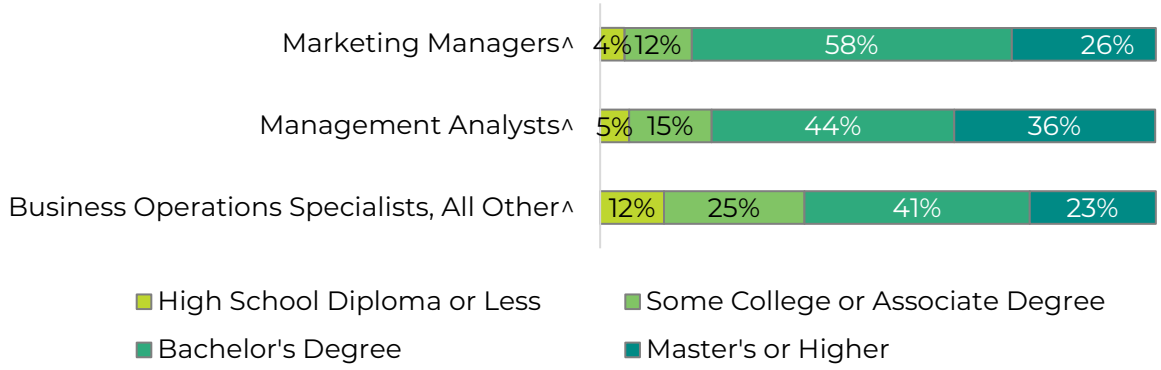
This statewide overview of all three occupations includes entry-level educational attainment requirements, in-demand qualifications, salary differentials by level of education, and occupational projections.

The job postings analysis was conducted using AI-related keywords and skills related to the proposed program and in relation to the target occupations to examine education requirements, licensures, years of experience, and wages. See Appendix A: Methodology for a list of skills and keywords.

Entry-Level Requirements

The Bureau of Labor Statistics (BLS) lists a bachelor's degree as the typical entry-level education for each of the three AI for business occupations. The national-level educational attainment data indicates 41% to 58% of incumbent workers in these occupations have completed a bachelor's degree as their highest level of education. Exhibit 2 shows the educational attainment for these occupations, sorted by the highest attainment of a four-year degree.

Exhibit 2: National-level Educational Attainment for Occupations



Throughout the state, there were 57,644 online job postings for the three occupations over the past 12 months, 2,989 of those postings were specifically related to the target positions aligned with the proposed baccalaureate degree program. These figures only account for postings made publicly available and do not include internal recruitment.

Approximately 49% of the 2,989 postings listed a minimum education requirement, of which 90% (1,325) requested a bachelor's degree compared to 4% (53) that requested a high school diploma or an associate degree. Exhibit 3 shows the requested level of education by number of online job postings.

Exhibit 3: Requested Education by Number of Job Postings in California (n=1,477)

Education Level	Job Postings	Percentage of Job Postings
High school or GED	24	2%
Associate's degree	29	2%
Bachelor's degree	**1,325**	**90%**
Master's degree	95	6%
Ph.D. or professional degree	4	0%

Licenses, Clearances, and Certifications

While there are no official state licenses, clearances, or certifications required for entry into any of the three occupations with AI-related keywords and skills, related to the proposed program, employers may list various specific qualifications for job applicants.

Of 2,989 online job postings, the most requested—albeit it in relatively small quantities—certifications, clearances, or licenses were Project Management Professional Certification (<1%), Microsoft Certified Professional (<1%), and Change Management Certification (<1%). Exhibit 4 shows the most requested licenses or certifications, sorted by number of online job postings.

Exhibit 4: Top Licenses, Clearances, or Certifications by Number of Job Postings in California (n=2,989)

License or Certification	Job Postings	Percentage of Job Postings
Project Management Professional Certification	20	<1%
Microsoft Certified Professional	12	<1%
Change Management Certification	10	<1%
Project Management Certification	9	<1%
Valid Driver's License	9	<1%
Certified Public Accountant	8	<1%
Certified Scrum Product Owner	8	<1%
Professional Risk Manager (PRM)	7	<1%
Certified Information System Auditor (CISA)	6	<1%
LEED Accredited Professional (AP)	6	<1%

Entry-Level Work Experience

The Bureau of Labor Statistics (BLS) lists "5 years or more" as the typical entry-level work experience for *marketing managers^*, less than 5 years for *management analysts^*, and no years for *business operations specialists, all other^*. However, of the 2,187 postings for the occupations with AI-related keywords and skills related to the proposed program that listed a minimum experience requirement, the majority requested 4 or more years of experience with the most postings, 35% (772), requesting 4 to 6 years.

Exhibit 5 shows the requested years of experience by number of online job postings.

Exhibit 5: Requested Years of Experience by Number of Job Postings in California (n=2,187)

Years of Experience	Job Postings	Percentage of Job Postings
0 - 1 Years	57	3%
2 - 3 Years	288	13%

Years of Experience	Job Postings	Percentage of Job Postings
4 - 6 Years	772	35%
7 - 9 Years	547	25%
10+ Years	523	24%

Degree Alignment

The proposed program aligns with the educational requirements for all three AI for business occupations. BLS lists a bachelor's degree as the typical entry-level education for each of the three occupations, 41% to 58% incumbent workers attained a baccalaureate degree as their highest level of education, and the vast majority (90%) of online job postings for related positions required at least a bachelor's degree. While a bachelor's degree will be required for employment in these roles, the necessary amount of entry-level work experience varies widely, ranging from 0 to 5 or more years.

Salary Differentials by Level of Education

Exhibit 6 lists the advertised entry-level wage for each of the three occupations with AI-related keywords and skills related to the proposed program, by level of education. However, significant disparities in the number of online job postings and occupational demand hinders a conclusive analysis of salary differentials by education.

Among the 1,227 total postings with a minimum education requirement for *marketing managers^*, 1,130 (92%) requested a bachelor's degree, while zero (0%) requested an associate degree. This supports the assertion that employers overwhelmingly look for *marketing managers^* with a bachelor's degree.

While 78% of the 204 total postings with a minimum education requirement for *management analysts^* show a salary differential of $10.58 more for postings requesting a bachelor's degree over an associate degree; this is a relatively small number of postings, overall.

Smaller still are the total 46 postings for *business operations specialists, all other^* —35 of which (or 76%) request a bachelor's degree but show a salary $47.66 an hour less than the advertised salary for the 5 postings (11%) of those requesting an associate degree. Due to the small number of postings overall, it is impossible to ascertain the validity of these differentials.

Exhibit 6: Advertised Entry-Level Wage by Level of Education (n=1,477)

	Marketing Managers (11-2021)^		Management Analysts (13-1111)^		Business Operations Specialists, All Other (13-1199)^	
Education	**Job Postings**	**Advertised Entry-Level Wage**	**Job Postings**	**Advertised Entry-Level Wage**	**Job Postings**	**Advertised Entry-Level Wage**
High school diploma or GED	12	$161,792 ($77.78)	8	$92,160 ($44.31)	4	$52,000 ($25.00)
Associate degree	0	Insufficient Data	24	$80,640 ($38.77)	5	$194,100 ($93.32)
Bachelor's degree	**1,130**	**$147,200 ($70.77)**	**160**	**$102,656 ($49.35)**	**35**	**$94,976 ($45.66)**

	Marketing Managers (11-2021)^		Management Analysts (13-1111)^		Business Operations Specialists, All Other (13-1199)^	
Master's degree	81	$174,592 ($83.94)	12	$132,608 ($63.75)	2	$185,450 ($89.16)
Ph.D. or professional degree	4	$300,000 ($144.23)	0	Insufficient Data	0	Insufficient Data

It is worth noting that there is a pronounced inverse relationship between each occupation's share of demand (annual openings) and their proportion of job postings listing a minimum education requirement.

Occupations by share of statewide (largest to smallest):

- Demand:
  - *Business operations specialists, all other^*: 44%
  - *Management analysts^*: 41%
  - *Marketing managers^*: 14%
- Online Job Postings:
  - *Marketing managers^: 83%*
  - *Management analysts^: 14%*
  - *Business operations specialists, all other^: 3%*

This wide disparity highlights a stark uneven representation of job postings in relation to each occupation's share of labor market demand. While this imbalance might be partially attributed to the search parameters used to pull AI-related positions, the magnitude of the discrepancy is unexpectedly large.

10-Year Occupational Projections

Exhibit 7 shows the cumulative number of jobs for the three AI for business occupations, from 2024 through 2034. There were 405,705 jobs for these occupations in 2024. The number of jobs is projected to increase annually, with the rate of growth gradually decelerating to a 0.3% increase by 2034.

Exhibit 7: Projected Number of Jobs in AI for Business by Year, 2024-2034

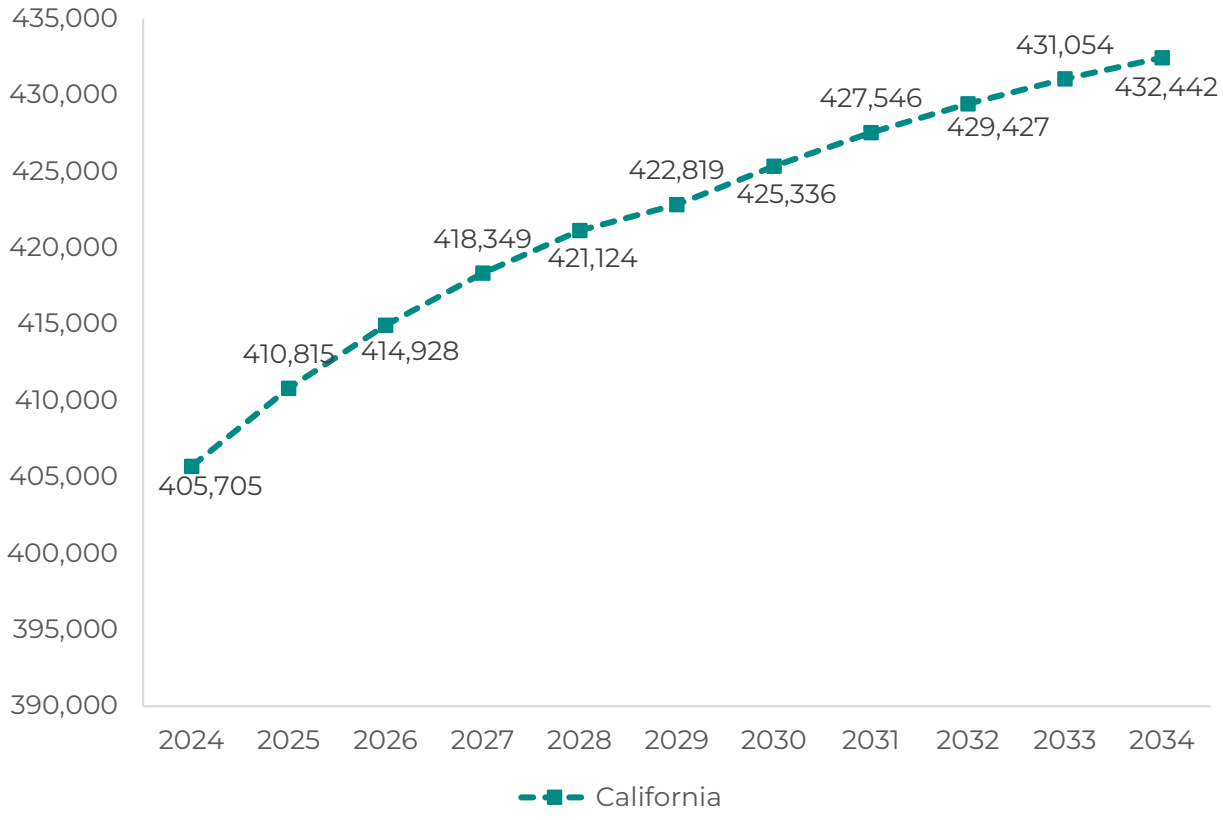


Exhibit 8 shows the ten-year occupational demand projections for the three AI for business occupations throughout California. Throughout the state, the number of jobs related to these occupations is projected to increase by 7% through 2034, with 36,673 job openings available annually.

Exhibit 8: 10-Year Occupational Demand in California

Occupation	2024 Jobs	2034 Jobs	2024-2034 Change	2024-2034 % Change	Annual Openings
Marketing Managers^	61,080	64,415	3,335	5%	5,287
Management Analysts^	167,250	180,606	13,355	8%	15,167
Business Operations Specialists, All Other^	177,375	187,421	10,046	6%	16,219
Total	**405,705**	**432,442**	**26,737**	**7%**	**36,673**

Regional Analysis

To gain a deeper understanding of labor market trends for these occupations, this section delves into Los Angeles/Orange County regional data, examining historical employment trends and demand, educational supply, and wages per occupation. Due to extensive workforce migration across Los Angeles and Orange counties, this analysis examines them in unison for a comprehensive regional view of labor market trends, aligning with standard practice recognizing the counties' integrated workforce and economic dynamics.

Occupational Overview in the Los Angeles/Orange County Region

Exhibit 9 shows the historical, annual percent change in jobs for the three AI for business occupations from 2014 through 2024. Employment in these occupations increased each year within this period with one exception, 2023 in which employment experienced stagnation. However, employment increased in the subsequent year, 2024, by 4%.

Exhibit 9: 10-Year Historical Annual Percent Change in Jobs for AI for Business Occupations, 2014-2024

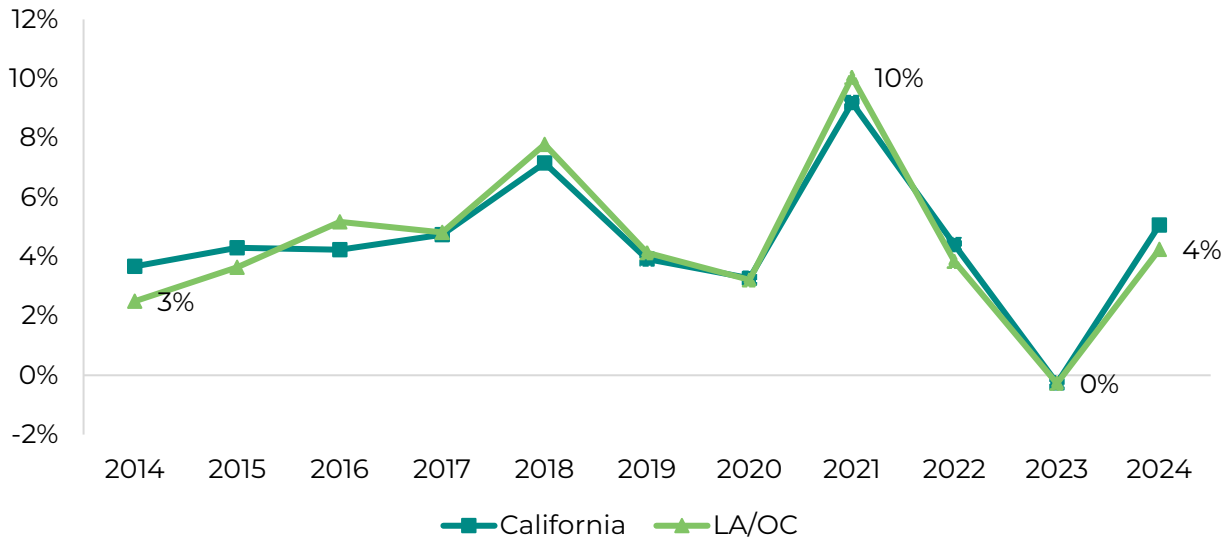


Exhibit 10 shows the ten-year occupational demand projections for the three AI for business occupations in Los Angeles/Orange County. The number of jobs related to these occupations are projected to increase 3% through 2034, with 11,099 job openings available annually.

Exhibit 10: Occupational Demand in Los Angeles and Orange Counties[5]

Geography	2024 Jobs	2034 Jobs	2024-2034 Change	2024-2034 % Change	Annual Openings
Los Angeles County	93,724	96,803	3,079	3%	8,031
Orange County	36,388	37,289	901	2%	3,068
LA/OC (Total)	**130,112**	**134,092**	**3,980**	**3%**	**11,099**

Educational Supply

Many community colleges offer business and commerce programs; however, none provide baccalaureate degree training with an AI focus. Therefore, educational supply is based on non-community college baccalaureate degrees.

Exhibit 11 shows the Classification of Instructional Programs (CIP) codes aligned with program needs and related to the AI for business occupations as defined in the Integrated Postsecondary Education Data Systems (IPEDS) CIP-SOC crosswalk, as well as the number of non-community college awards conferred in each CIP code.[6]

Exhibit 11: Related Classification of Instructional Program (CIP) Codes

CIP Code	CIP Title	LA/OC Non-CC Baccalaureate Awards
09.0900	Public Relations, Advertising, and Applied Communications	92
09.0902	Public Relations/Image Management	224
09.0909	Communication Management and Strategic Communications	5
19.0905	Apparel and Textile Marketing Management	0
30.7102	Business Analytics	0
30.7103	Data Visualization	0
30.7199	Data Analytics, Other	0
52.0101	Business/Commerce, General	12
52.0201	Business Administration and Management, General	10,616
52.0208	E-Commerce/Electronic Commerce	0
52.0499	Business Operations Support and Secretarial Services, Other	0

[5] Ten-year change represents new job additions to the workforce. Annual openings include new jobs and replacement jobs that result from retirements and separations.
[6] https://nces.ed.gov/ipeds/cipcode/post3.aspx?y=56

CIP Code	CIP Title	LA/OC Non-CC Baccalaureate Awards
52.0601	Business/Managerial Economics	741
52.1401	Marketing/Marketing Management, General	505
52.1402	Marketing Research	0
52.1403	International Marketing	0
52.1404	Digital Marketing	0
52.1499	Marketing, Other	35
52.1910	Hospitality and Recreation Marketing Operations	0
	Total	**12,230**

Exhibit 12 shows the annual and three-year average number of awards conferred by non-community college institutions in the related Classification of Instructional Programs (CIP) codes in Los Angeles and Orange counties. Between 2020 and 2023, four-year colleges and universities throughout the region conferred an average of 12,230 bachelor's degrees annually in related training programs.

Exhibit 12: Regional Non-Community College Awards, 2020-2023

CIP Code	Program	College	2020-2021 Awards	2021-2022 Awards	2022-2023 Awards	3-Year Award Average
09.0900	Public Relations, Advertising, and Applied Communication	Azusa Pacific University	0	0	13	4
		Biola University	32	17	30	26
		Chapman University	51	40	44	45
		Pepperdine University	20	18	11	16
Supply Subtotal/Average			**103**	**75**	**98**	**92**
09.0902	Public Relations/Image Management	California State University-Dominguez Hills	96	115	80	97
		California State University-Long Beach	54	47	53	51
		University of Southern California	75	76	75	75
Supply Subtotal/Average			**225**	**238**	**208**	**224**

CIP Code	Program	College	2020-2021 Awards	2021-2022 Awards	2022-2023 Awards	3-Year Award Average
09.0909	Communication Management and Strategic Communications	Azusa Pacific University	0	16	0	5
Supply Subtotal/Average			**0**	**16**	**0**	**5**
19.0905	Apparel and Textile Marketing Management	FIDM-Fashion Institute of Design & Merchandising	0	0	0	0
Supply Subtotal/Average			**0**	**0**	**0**	**0**
52.0101	Business / Commerce, General	Azusa Pacific University	10	15	10	12
		Loyola Marymount University	1	1	0	1
		Mount Saint Mary's University	0	0	0	0
Supply Subtotal/Average			**11**	**16**	**10**	**12**
52.0201	Business Administration and Management, General	Abraham Lincoln University	1	1	0	1
		American Jewish University	5	1	2	3
		Angeles College	10	16	0	9
		Azusa Pacific University	100	82	79	87
		Bethesda University	28	14	22	21
		Biola University	120	106	111	112
		California State Polytechnic University-Pomona	1,644	1,561	1,521	1,575
		California State University-Dominguez Hills	619	588	537	581
		California State University-Fullerton	2,367	2,164	2,066	2,199
		California State University-Long Beach	1,457	1,491	1,284	1,411
		California State University-Los Angeles	864	726	896	829
		California State University-Northridge	760	769	1,052	860
		Chapman University	452	453	422	442
		Concordia University-Irvine	76	64	82	74

CIP Code	Program	College	2020-2021 Awards	2021-2022 Awards	2022-2023 Awards	3-Year Award Average
		Haven University	0	0	0	0
		Hope International University	35	38	37	37
		Latin American Bible Institute	0	0	0	0
		Life Pacific University	17	19	22	19
		Los Angeles Pacific University	4	14	24	14
		Loyola Marymount University	52	41	55	49
		Mount Saint Mary's University	29	20	16	22
		Pacific College	0	0	0	0
		Pacific Oaks College	1	0	0	0
		Pacific States University	1	4	0	2
		Pepperdine University	176	218	186	193
		Platt College-Anaheim	0	0	0	0
		Platt College-Los Angeles	0	0	0	0
		Presbyterian Theological Seminary in America	0	0	0	0
		The Master's University and Seminary	40	43	54	46
		University of Antelope Valley	16	15	14	15
		University of California-Irvine	379	340	360	360
		University of La Verne	296	219	192	236
		University of Massachusetts Global	266	299	282	282
		University of Southern California	1,035	832	0	622
		University of the People	214	235	306	252
		University of the West	11	9	10	10
		Vanguard University of	66	50	53	56

CIP Code	Program	College	2020-2021 Awards	2021-2022 Awards	2022-2023 Awards	3-Year Award Average
		Southern California				
		West Coast University-Orange County	0	0	7	2
		Westcliff University	107	114	148	123
		Whittier College	62	39	64	55
		Woodbury University	30	8	10	16
Supply Subtotal/Average			**11,340**	**10,593**	**9,914**	**10,616**
52.0208	E-Commerce / Electronic Commerce	University of La Verne	1	0	0	0
Supply Subtotal/Average			**1**	**0**	**0**	**0**
52.0601	Business / Managerial Economics	Azusa Pacific University	0	0	9	3
		California Institute of Technology	0	2	0	1
		California State University-Long Beach	53	34	32	40
		Chapman University	63	46	57	55
		University of California-Irvine	706	647	575	643
		University of California-Los Angeles	0	0	0	0
Supply Subtotal/Average			**822**	**729**	**673**	**741**
52.1401	Marketing / Marketing Management, General	California State University-Northridge	394	382	175	317
		FIDM-Fashion Institute of Design & Merchandising	12	14	26	17
		Loyola Marymount University	149	152	144	148
		Mount Saint Mary's University	3	7	5	5
		Vanguard University of Southern California	12	11	10	11
		Woodbury University	9	5	4	6
Supply Subtotal/Average			**579**	**571**	**364**	**505**
52.1404	Digital Marketing	Mount Saint Mary's University	0	0	0	0
Supply Subtotal/Average			**0**	**0**	**0**	**0**

CIP Code	Program	College	2020-2021 Awards	2021-2022 Awards	2022-2023 Awards	3-Year Award Average
52.1499	Marketing, Other	Azusa Pacific University	23	25	16	21
		The Master's University and Seminary	19	20	1	13
Supply Subtotal/Average			**42**	**45**	**17**	**35**
Supply Total/Average			**13,123**	**12,283**	**11,284**	**12,230**

Wages

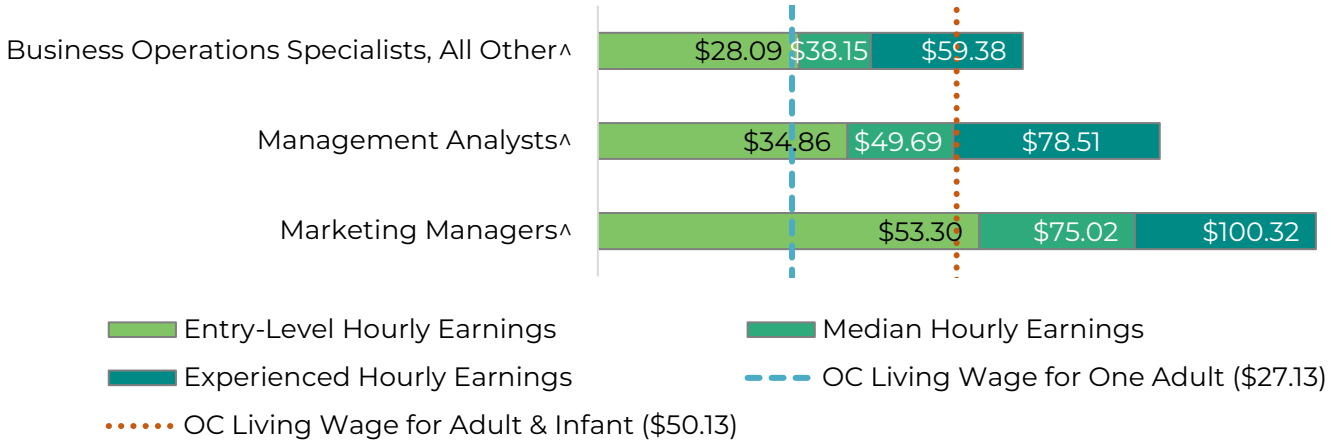
This report considers the entry-level hourly wages for the three AI for business occupations as they relate to the county's living wage. These figures represent the high and low range of regional living wages. Entry-level hourly earnings are represented by the 25th percentile, which indicates 25% of workers in that occupation earn less than that amount while 75% earn more.

Each county's wage analysis presents a weighted entry-level wage across all three occupations adjusted by 2024 jobs. This approach accounts for wage variation by normalizing the influence of high- or low-wage occupations.

Orange County Wages

All annual openings for these AI for business occupations have entry-level wages above Orange County's living wage for one adult ($27.13); however, a majority of annual openings (84%) have entry-level wages below the living wage for one adult with one infant-aged child ($50.13). Typical entry-level hourly wages range between $28.09 and $53.30. Orange County's weighted entry-level wage ($35.07) is below the statewide weighted average ($36.41). Exhibit 13 shows the unweighted wage range for each of the three occupations in Orange County and their comparison to the county living wage, sorted from lowest to highest entry-level wage.

Exhibit 13: Wages by Occupation in Orange County

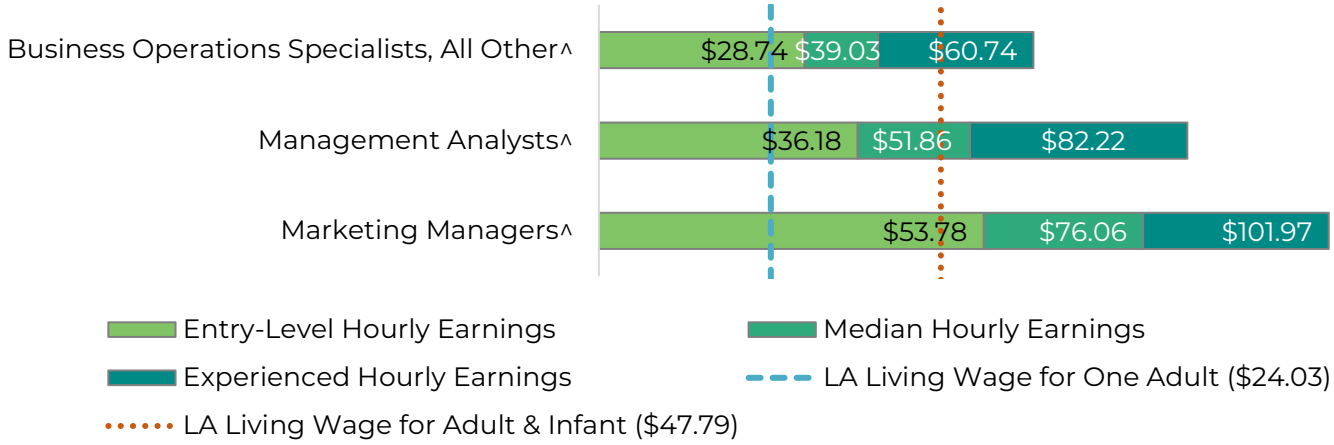


Los Angeles County Wages

All annual openings for these AI for business occupations have entry-level wages above Los Angeles' living wage for one adult ($24.03); however, a majority of annual openings (85%) have entry-level wages below the living wage for one adult with one infant-aged child ($47.79). Typical entry-level hourly wages range between $28.74 and $53.78. Los Angeles County's weighted entry-level wage ($35.59) is below the statewide weighted average ($36.41) for these occupations. Exhibit 14 shows the unweighted wage range for each of the three

occupations in Los Angeles County and their comparison to the county living wage, sorted from lowest to highest entry-level wage.

Exhibit 14: Wages by Occupation in Los Angeles County



Appendix A: Methodology

All findings are based on the most current available data and a combination of primary and secondary sources. While care was taken to ensure accuracy, the OC COE, its host district, and the California Community Colleges Chancellor's Office are not responsible for individual decisions made based on this report.

Traditional Labor Market Data

OC COE prepared this report by analyzing occupational and educational program data. Occupational data comes from Lightcast, a labor market analytics firm which compiles information from the California Employment Development Department (EDD), U.S. Bureau of Labor Statistics (BLS), and other agencies. Analysis of emerging occupations is predicated on online job postings data combined with Occupational Information Network (O*NET) profile descriptions. Program supply data was sourced from the California Community Colleges Chancellor's Office Data Mart (datamart.cccco.edu) and the Integrated Postsecondary Education Data System (nces.ed.gov/ipeds/use-the-data), also known as IPEDS, which was integrated into the COE's Supply Table. (IPEDS).

Using a TOP-SOC crosswalk, the OC COE identified middle-skill and above middle-skill occupations aligned with programs in relevant TOP codes. Middle-skill occupations typically require education beyond high school but less than a bachelor's degree, while above middle-skill roles usually require a bachelor's degree or higher.

Labor market supply was determined by calculating the three-year average number of program completions within related TOP and CIP codes. This data informed the "supply table" in the report. TOP codes are used in California to classify community college programs; CIP codes are used nationally across higher education institutions.

The analysis reflects labor market demand for occupations closely related to the proposed baccalaureate degree program, based on the requestor's specifications. Traditional labor market data was used to assess current and projected employment based on data trends for detailed occupations, as well as annual average awards granted by regional postsecondary educational institutions. Specifically, while demand was measured as projected annual openings from 2024 to 2034, supply figures only include non-community college awards, since existing community college programs are unlikely to directly train for the above-middle skill occupations included in this report and/or the AI for business specialization at the baccalaureate-level. Supply may be overstated, as it's unclear whether these programs specifically address this specialization.

Wage data was evaluated using the Self-Sufficiency Standard from the University of Washington's Center for Women's Welfare, which sets Orange County's living wage at $27.13 for one adult and $50.13 for one adult with one infant-aged child (as of March 2024).

Real-Time Labor Market Data

Real-time labor market data (online job postings) assess employer preferences but cannot be used to indicate the number of open positions, number of jobs, or annual openings (also known as "demand").

OC COE refined the analysis of the regional job market by isolating postings most relevant to the proposed degree. From the initial pool of 57,644 online job postings for the three target above middle-skill occupations in California over the last 12 months, the data was filtered to yield a set of 2,989 highly-aligned postings. This isolation process specifically utilized the skills and qualifications detailed in Exhibit 15 in conjunction with any keyword combination defined by Criterion 1 and Criterion 2 of Exhibit 16.

Exhibit 15: Parameters on Skills and Qualifications

(Specialized) Skills or Qualifications			
Included (Any)			Excluded (Any)
AI Assisted Content Generation	Artificial Intelligence Product Management	Generative Artificial Intelligence	Engineer
AI Copywriting	Artificial Intelligence Systems	Operationalizing AI	Computer Science
Artificial Intelligence			Machine Learning

Exhibit 16: Boolean Parameters on Keywords

Included: Keywords		
Criterion 1 (Any)		Criterion 2 (Any)
• AI • Artificial Intelligence • GenAI • Generative AI • Generative Artificial Intelligence	AND	• AI Integration • Identifying AI Solutions • AI Solutions • Implementing AI Solutions • AI Tools • Innovation • Analysis • Marketing • Analyze Metrics • Product Awareness • Content Creation • Sales • Create Content • Social Media • Design Data-Driven Solutions • Strategic Support • Digital Marketing • Strategy • Drive Innovation • Streamline

Appendix B: Data Sources

Data Type	Source
Occupational Projections, Wages, and Job Postings	Traditional labor market information data is sourced from Lightcast (v.2025.3), a labor market analytics firm. Lightcast occupational employment data are based on final Lightcast industry data and final Lightcast staffing patterns. Wage estimates are based on Occupational Employment Statistics and the American Community Survey. For more information, see https://lightcast.io/.Wage differentials were based on online job postings data from Lightcast and compared advertised entry-level wages for positions requiring at least a bachelor's degree or an associate degree.
Living Wage	"Living Wage" measures the income necessary for an individual or family to afford basic expenses by assessing the costs such as housing, food, child care, health care, transportation, and taxes. Per the CCCCCO's this report's endorsement criteria uses the University of Washington's Center for Women's Welfare Self-Sufficiency Standard last updated in March 2024, which is $27.13 per hour ($57,294 annually) for one adult and $50.13 per hour ($105,872 annually) for one adult with one infant in Orange County. For more information, see: http://www.selfsufficiencystandard.org/California
Typical Education and Training Requirements, and Educational Attainment for Detailed Occupations	The Bureau of Labor Statistics (BLS) provides information about education and training requirements for hundreds of detailed occupations. BLS uses a system to assign categories for entry-level education, work experience in a related occupation, and typical on-the-job training to each occupation for which BLS publishes projections data. For more information, see https://www.bls.gov/emp/documentation/education/tech.htm.
Educational Supply	The CCCCO Data Mart provides information about students, courses, student services, outcomes and faculty and staff. For more information, see: https://datamart.cccco.edu The National Center for Education Statistics (NCES) Integrated Postsecondary Integrated Data System (IPEDS) collects data on the number of postsecondary awards earned (completions). For more information, see https://nces.ed.gov/ipeds/use-the-data/survey-components/7/completions

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FOR LABOR MARKET RESEARCH
ORANGE COUNTY

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