# Appendix A: Methodology

CVML 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](file:///C:\Users\jc26067\COE%20Dropbox\Jesse%20Crete\OC%20COE\Baccalaureate%20Degrees\College%20Requests\BDP%20Report%20Template\datamart.cccco.edu)) and the Integrated Postsecondary Education Data System ([nces.ed.gov/ipeds/use-the-data](file:///C:\Users\jp04472\Dropbox%20(COE)\OC%20COE\2022-23%20PRs\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 CVML 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 2023 to 2033, 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 cyber operations specialization at the baccalaureate-level. Supply may be overstated, as it’s unclear whether these programs specifically address this specialization.

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.

Wage data was evaluated using the Self-Sufficiency Standard from the University of Washington’s Center for Women’s Welfare, which sets CVML’s living wage at $16.48 for one adult and $33.56 for one adult with an infant-aged child (as of March 2024).

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 CVML COE, its host district, and the California Community Colleges Chancellor’s Office are not responsible for individual decisions made based on this report.

# Appendix B: Data Sources

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| Data Type | Source |
| Occupational Projections, Wages, and Job Postings | Traditional labor market information data is sourced from Lightcast, 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, childcare, 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 $16.48 per hour ($34,278 annually) for one adult and $33.56 per hour ($69,805 annually) for one adult with an infant in CVML. For more information, see: [http://www.selfsufficiencystandard.org/California](http://www.selfsufficiencystandard.org/California%20) |
| 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>. |
| Emerging Occupation Descriptions, Education Requirements, and Employer Preferences | The O\*NET database includes information on education requirements, skills, abilities, knowledge, work activities, and interests associated with occupations. For more information, see <https://www.onetonline.org/help/online/> |
| 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> |

**For more information, please contact the Central Valley/Mother Lode Center of Excellence:**

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