



Program Endorsement Brief

CULINARY ARTS, HOSPITALITY AND CULINOLOGY

Far North Center of Excellence
DECEMBER 2020

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COVID-19 Statement: This report includes employment projection data by EMSI. 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 or potential output. To the extent that a recession or labor shock, such as the economic effects of COVID-19, can cause long-term structural change, they 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. Other measures such as unemployment rates and monthly industry employment estimates will reflect the most recent information on employment and jobs in the state and, in combination with input from local employers, may help validate current and future employment needs as depicted here.

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Summary

The Far North Center of Excellence for Labor Market Research prepared this report to provide regional labor market supply and demand data related to culinary arts, hospitality and culinology occupations in the Far North region. This report focuses on eleven middle-skill occupations.¹ A list of occupations is provided on the subsequent page. 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 existing community college programs.

Key findings include:

- The Far North region held 744 jobs for culinary arts, 503 jobs for hospitality and 32 jobs for culinology professionals in 2019.
- Jobs for culinary arts, hospitality and culinology professionals are projected to grow by 5.4%, 3.4% and 3.9%, respectively, over the next five years.
- Over the next five years, culinary arts, hospitality and culinology professionals are projected to have 744, 503 and 32 annual openings, respectively, in the Far North region.
- Wage data shows that culinary arts, hospitality and culinology professionals tend to earn more than the subregion's living wage. Reported earnings for culinology professionals tops the group, while culinary arts professionals have the lowest wages and hospitality professionals show a wide range depending on management experience.
- Percentages of culinary arts, hospitality and culinology professionals with education that is consistent with community college offerings (some college or associate degrees) range widely.
- Analysis of postsecondary awards in the Far North region shows that, on average, 10 awards were issued for culinary arts and 35 awards were issued for hospitality each year between the 2017-2018 and 2019-2020 academic years.

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.

Introduction

The Far North Center of Excellence was asked to provide labor market information for a proposed program at a regional community college. This report focuses on the following Standard Occupational Classification (SOC) occupations and codes:

Culinary Arts

- Chefs and Head Cooks (35-1011)
- Cooks, Institution and Cafeteria (35-2012)
- Cooks, Private Household (35-2013)
- Cooks, Restaurant (35-2014)
- Cooks, All Other (35-2019)

Hospitality

- Food Service Managers (11-9051)
- Lodging Managers (11-9081)
- Meeting, Convention, and Event Planners (13-1121)
- First-Line Supervisors of Food Preparation and Serving Workers (35-1012)

Culinology

- Food Scientists and Technologists (19-1012)
- Agricultural and Food Science Technicians (19-4011)

A review of related programs revealed the following program(s), and Taxonomy of Programs (TOP) code(s) are appropriate for inclusion in this report:

Culinary Arts/Culinology

- Nutrition, Foods, and Culinary Arts (1306.00)
- Dietetic Services and Management (1306.20)
- Culinary Arts (1306.30)

Hospitality

- Hospitality (1307.00)
- Restaurant and Food Services and Management (1307.10)

There are four related programs that are not present at community colleges in the Far North region.

Hospitality

- Lodging Management (1307.20)
- Resort and Club Management (1307.30)

Culinology

- Food Processing and Related Technologies (0113.00)
- Viticulture, Enology and Wine Business (0104.00)

The corresponding Classification of Instructional Programs (CIP) code(s) are:

Culinary Arts/Culinology

- Foods, Nutrition, and Wellness Studies, General (19.0501)
- Foodservice Systems Administration/Management (19.0505)
- Cooking and Related Culinary Arts, General (12.0500)

Hospitality

- Hospitality Administration/Management, General (52.0901)
- Restaurant, Culinary, and Catering Management/Manager (12.0504)
- Hotel/Motel Administration/Management (52.0904)
- Resort Management (52.0906)

Culinology

- Food Technology and Processing (01.1002)
- Viticulture and Enology (01.0309)

The SOC titles, SOC codes, and job descriptions from the Bureau of Labor Statistics (BLS) and O*Net OnLine are shown below.

Culinary Arts

Chefs and Head Cooks (35-1011)

Direct and may participate in the preparation, seasoning, and cooking of salads, soups, fish, meats, vegetables, desserts, or other foods. May plan and price menu items, order supplies, and keep records and accounts.

Cooks, Institution and Cafeteria (35-2012)

Prepare and cook large quantities of food for institutions, such as schools, hospitals, or cafeterias.

Cooks, Private Household (35-2013)

Prepare meals in private homes. Includes personal chefs.

Cooks, Restaurant (35-2014)

Prepare, season, and cook dishes such as soups, meats, vegetables, or desserts in restaurants. May order supplies, keep records and accounts, price items on menu, or plan menu.

Cooks, All Other (35-2019)

All cooks not listed separately.

Hospitality**Food Service Managers (11-9051)**

Plan, direct, or coordinate activities of an organization or department that serves food and beverages.

Lodging Managers (11-9081)

Plan, direct, or coordinate activities of an organization or department that provides lodging and other accommodations.

Meeting, Convention, and Event Planners (13-1121)

Coordinate activities of staff, convention personnel, or clients to make arrangements for group meetings, events, or conventions.

First-Line Supervisors of Food Preparation and Serving Workers (35-1012)

Directly supervise and coordinate activities of workers engaged in preparing and serving food.

Culinology**Food Scientists and Technologists (19-1012)**

Use chemistry, microbiology, engineering, and other sciences to study the principles underlying the processing and deterioration of foods; analyze food content to determine levels of vitamins, fat, sugar, and protein; discover new food sources; research ways to make processed foods safe, palatable, and healthful; and apply food science knowledge to determine best ways to process, package, preserve, store, and distribute food.

Agricultural and Food Science Technicians (19-4011)

Work with food scientists or technologists to perform standardized qualitative and quantitative tests to determine physical or chemical properties of food or beverage products. Includes technicians who assist in research and development of production technology, quality control, packaging, processing, and use of foods.

Occupational Demand

Exhibits 1a, 1b and 1c summarize the five-year projected job growth for the selected occupations in the Far North, North/Far North, and California.

Exhibit 1a. Employment and projected demand – Culinary Arts, 2019-2024

Occupation	SOC	2019 Jobs	2024 Jobs	2019-2024 Jobs Change	2019-2024 Jobs % Change	2019-2024 Annual Openings
Chefs and Head Cooks	35-1011	229	239	11	4.6%	41
Cooks, Institution and Cafeteria	35-2012	914	948	34	3.7%	147
Cooks, Private Household	35-2013	<10	<10	NA	NA	0
Cooks, Restaurant	35-2014	3,257	3,452	195	6.0%	532
Cooks, All Other	35-2019	117	122	5	4.0%	24
Far North region	TOTAL	4,517	4,761	245	5.4%	744
Chefs and Head Cooks	35-1011	1,785	1,912	128	7.1%	273
Cooks, Institution and Cafeteria	35-2012	3,102	3,276	174	5.6%	500
Cooks, Private Household	35-2013	<10	<10	NA	NA	1
Cooks, Restaurant	35-2014	14,398	16,052	1,654	11.5%	2,506
Cooks, All Other	35-2019	382	398	16	4.2%	70
North/Far North region	TOTAL	19,667	21,639	1,972	10.0%	3,351
Chefs and Head Cooks	35-1011	22,395	23,022	627	2.8%	3,879
Cooks, Institution and Cafeteria	35-2012	32,727	33,046	320	1.0%	29,074
Cooks, Private Household	35-2013	161	188	26	16.4%	298
Cooks, Restaurant	35-2014	138,315	148,759	10,443	7.6%	186,613
Cooks, All Other	35-2019	3,170	3,665	495	15.6%	5,178
California	TOTAL	196,768	208,680	11,912	6.1%	225,042

Exhibit 1b. Employment and projected demand – Hospitality, 2019-2024

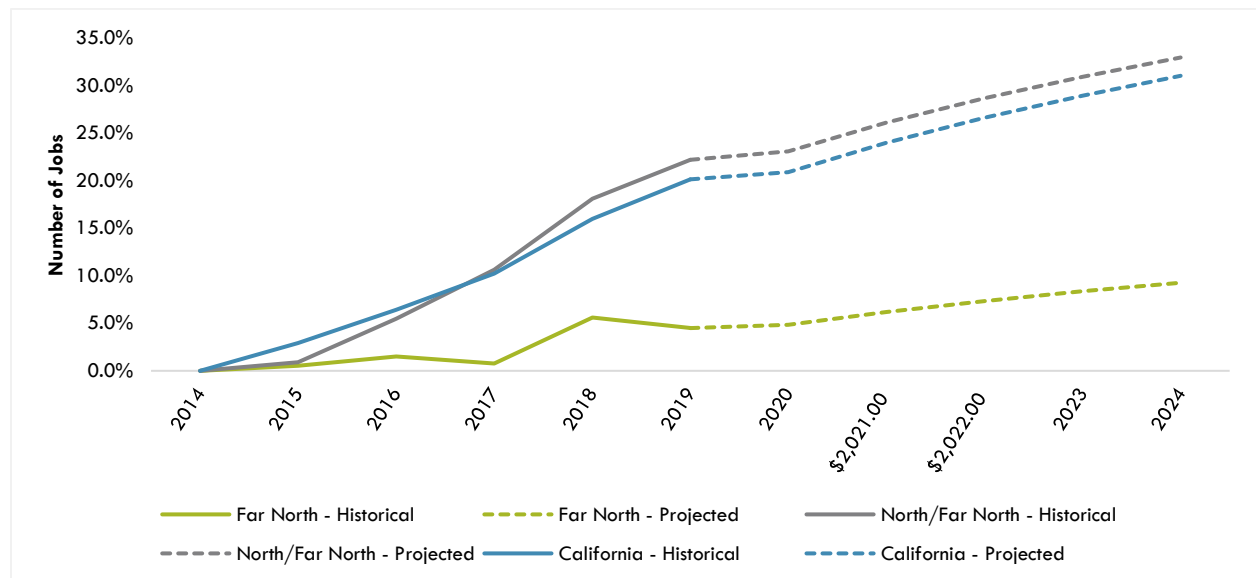
Occupation	SOC	2019 Jobs	2024 Jobs	2019-2024 Jobs Change	2019-2024 Jobs % Change	2019-2024 Annual Openings
Food Service Managers	11-9051	795	793	(2)	-0.2%	107
Lodging Managers	11-9081	245	246	1	0.5%	35
Meeting, Convention, and Event Planners	13-1121	197	223	25	12.8%	31
First-Line Supervisors of Food Preparation and Serving Workers	35-1012	1,948	2,031	84	4.3%	329
Far North region	TOTAL	3,185	3,293	108	3.4%	503
Food Service Managers	11-9051	3,890	4,084	194	5.0%	527
Lodging Managers	11-9081	541	548	7	1.2%	72
Meeting, Convention, and Event Planners	13-1121	1,156	1,257	101	8.8%	174
First-Line Supervisors of Food Preparation and Serving Workers	35-1012	8,378	9,145	767	9.2%	1,446
North/Far North region	TOTAL	13,965	15,034	1,069	7.7%	2,218
Food Service Managers	11-9051	51,833	50,455	(1,378)	-2.7%	7,351
Lodging Managers	11-9081	5,758	5,643	(115)	-2.0%	5,443
Meeting, Convention, and Event Planners	13-1121	13,919	15,981	2,062	14.8%	19,837
First-Line Supervisors of Food Preparation and Serving Workers	35-1012	94,756	94,775	19	0.0%	99,175
California	TOTAL	166,266	166,855	589	0.4%	131,806

Exhibit 1c. Employment and projected demand – Culinary, 2019-2024

Occupation	SOC	2019 Jobs	2024 Jobs	2019-2024 Jobs Change	2019-2024 Jobs % Change	2019-2024 Annual Openings
Food Scientists and Technologists	19-1012	53	57	4	7.5%	11
Agricultural and Food Science Technicians	19-4011	123	126	3	2.4%	21
Far North region	TOTAL	176	183	7	3.9%	32
Food Scientists and Technologists	19-1012	281	296	15	5.3%	44
Agricultural and Food Science Technicians	19-4011	894	904	10	1.1%	142
North/Far North region	TOTAL	1,175	1,200	25	2.1%	186
Food Scientists and Technologists	19-1012	2,510	2,448	(62)	-2.5%	315
Agricultural and Food Science Technicians	19-4011	3,847	4,050	203	5.3%	5,065
California	TOTAL	6,357	6,498	141	2.2%	5,381

Exhibit 2 compares the percent change in the number of jobs between 2014 through 2019 and the projected changes through 2024. The rate of change is indexed to the total number of jobs in 2014.

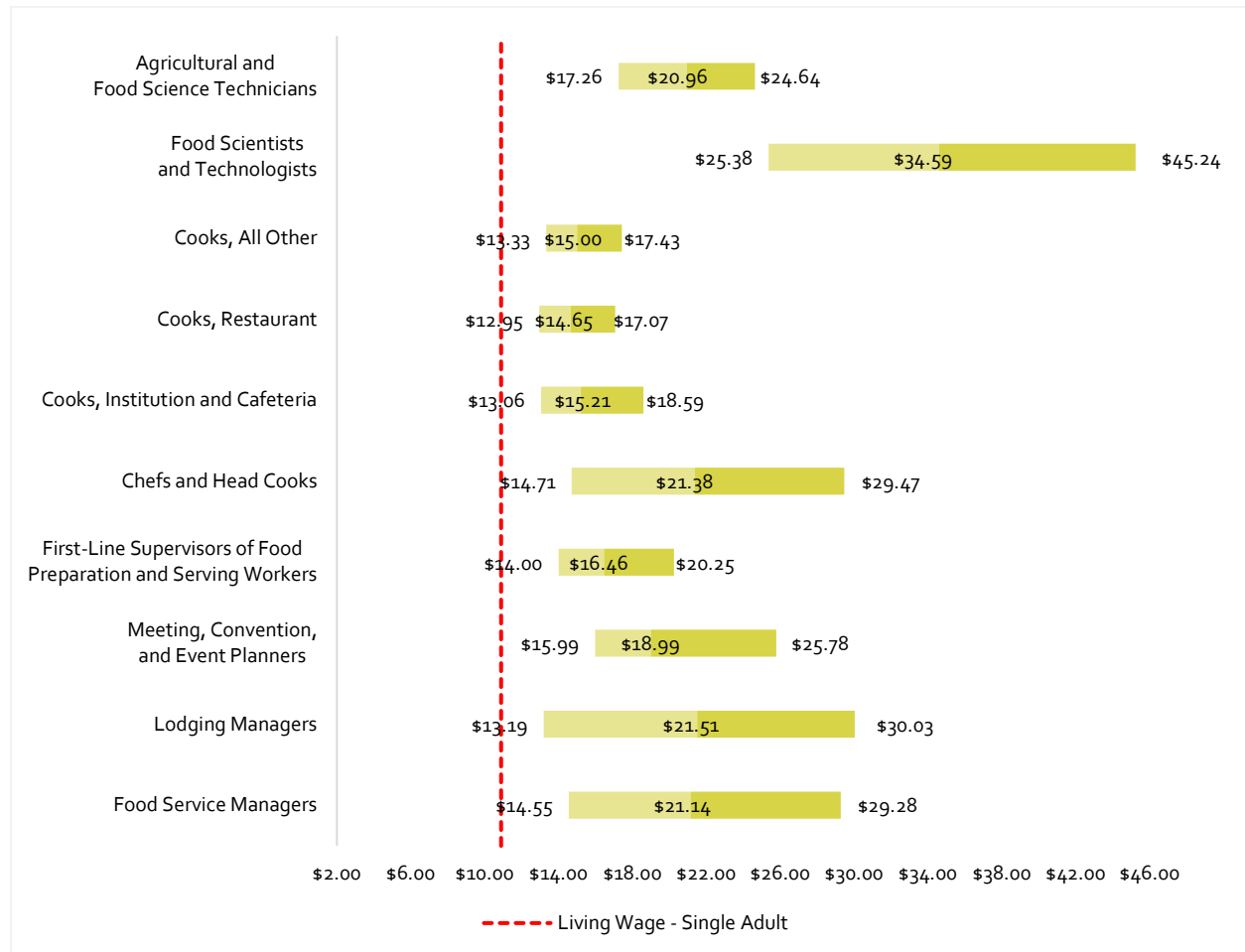
Exhibit 2. Changes in employment, 2014-2024



Wages

Exhibit 3 compares the entry-level, median, and experienced wages for the selected occupations to the Far North living wage for a single adult.² The Cooks, Private Household occupation was excluded from this chart as there was insufficient wage data available to analyze.

Exhibit 3. Comparison of wages by occupation, Far North region



Job Postings

This section of the report analyzes recent data from online job postings (real-time LMI). Online job postings may provide additional insight into recent changes in the labor market that are not captured by historical data. Job postings data comes from Burning Glass Labor Insights and represents new listings posted online within the last year, from November 1, 2019, to October 31, 2020.

Occupations and Job Titles

Exhibit 4 details the number of online job postings for the selected occupations. Burning Glass identified a pool of 800 job postings for the selected occupations in the Far North region, 276 postings in Culinary Arts, 511 posting in Hospitality and 13 postings in Culinology.

² Living wage is defined as the level of income a single adult with no children must earn to meet basic needs, including food, housing, transportation, healthcare, taxes, and other miscellaneous basic needs. The 25th-percentile and 75th-percentile hourly wages are used as proxy for entry-level and experienced-level wages.

Exhibit 4. Number of job postings by occupation

Occupation	Job Postings	Share of Job Postings
Cooks, Restaurant (35-2014)	247	89%
Chefs and Head Cooks (35-1011)	23	8%
Cooks, Institution and Cafeteria (35-2012)	6	2%
Culinary Arts - Total Job Postings	276	100%
Food Service Managers (11-9051)	263	51%
First-Line Supervisors of Food Preparation and Serving Workers (35-1012)	197	39%
Lodging Managers (11-9081)	27	5%
Meeting, Convention, and Event Planners (13-1121)	24	5%
Hospitality - Total Job Postings	511	100%
Agricultural Technicians (19-4011.01)	7	54%
Food Scientists and Technologists (19-1012)	4	31%
Food Science Technicians (19-4011.02)	2	15%
Culinology- Total Job Postings	13	100%

Exhibits 5a, 5b and 5c show the top job titles with the most job postings and the share of job postings. All 800 job postings included a job title.

Exhibit 5a. Top jobs titles for selected occupations in the Far North region – Culinary Arts

Job Title	Job Postings	Share of Job Postings
Cook	75	27%
Line Cook	27	10%
Prep Cook	11	4%
Correctional Supervising Cook Correctional Facility	8	3%
Cook Aide	7	3%
Sous Chef	5	2%

Exhibit 5b. Top jobs titles for selected occupations in the Far North region – Hospitality

Job Title	Job Postings	Share of Job Postings
Restaurant Manager	33	6%
General Manager	30	6%
Shift Manager	22	4%
Assistant Manager	17	3%
A Quick	14	3%
Restaurant Shift Leader	12	2%

Exhibit 5c. Top jobs titles for selected occupations in the Far North region – Culinology

Job Title	Job Postings	Share of Job Postings
Enologist - Harvest Season	4	31%
Junior Specialist - Science	2	15%
Agriculture Technician	2	15%
Harvest Viticulture Technician	2	15%

Employers

Exhibits 6a, 6b and 6c show the top employers for job postings related to the selected occupations. Please note that 21% of job posting for Culinary Arts and 13% of job postings for Hospitality have been excluded because they did not include an employer.

Exhibit 6a. Top employers for selected occupations in the Far North region – Culinary Arts

Employer	Job Postings	Share of Job Postings
Oroville Hospital	14	6%
Holiday Retirement	10	5%
Rolling Hills Casino	10	5%
Adventist Health	8	4%
Chili's	7	3%
Shasta County Head Start Child Development Inc	6	3%

Exhibit 6b. Top employers for selected occupations in the Far North region – Hospitality

Employer	Job Postings	Share of Job Postings
Pilot Flying J	40	9%
Panda Express	30	7%
McDonald's	28	6%
KFC	22	5%
Panera Bread	16	4%
H&R Block	16	4%

Exhibit 6c. Top employers for selected occupations in the Far North region – Culinology

Employer	Job Postings	Share of Job Postings
Sierra Nevada Brewing Company	4	31%
Kendall Jackson Wine Estates	2	15%
Jackson Family Wines	2	15%
Fetzer Vineyards	2	15%
University of California at Davis	2	15%
Bayer Corporation	1	8%

Skills and Certifications

Exhibits 7a, 7b and 7c show the top specialized skills for the selected occupations. Please note that 34% of job posting for Culinary Arts and 23% of job postings for Hospitality have been excluded because they did not include a skill.

Exhibit 7a. Top skills for selected occupations in the Far North region – Culinary Arts

Specialized Skill	Job Postings	Share of Job Postings
Cooking	153	84%
Food Preparation	125	69%
Cleaning	63	35%
Meal Preparation	33	18%
Food Safety	32	18%
Scheduling	32	18%

Exhibit 7b. Top skills for selected occupations in the Far North region – Hospitality

Specialized Skill	Job Postings	Share of Job Postings
Restaurant Management	153	39%
Food Safety	121	31%
Scheduling	101	26%
Customer Service	90	23%
Retail Industry Knowledge	87	22%
Supervisory Skills	75	19%

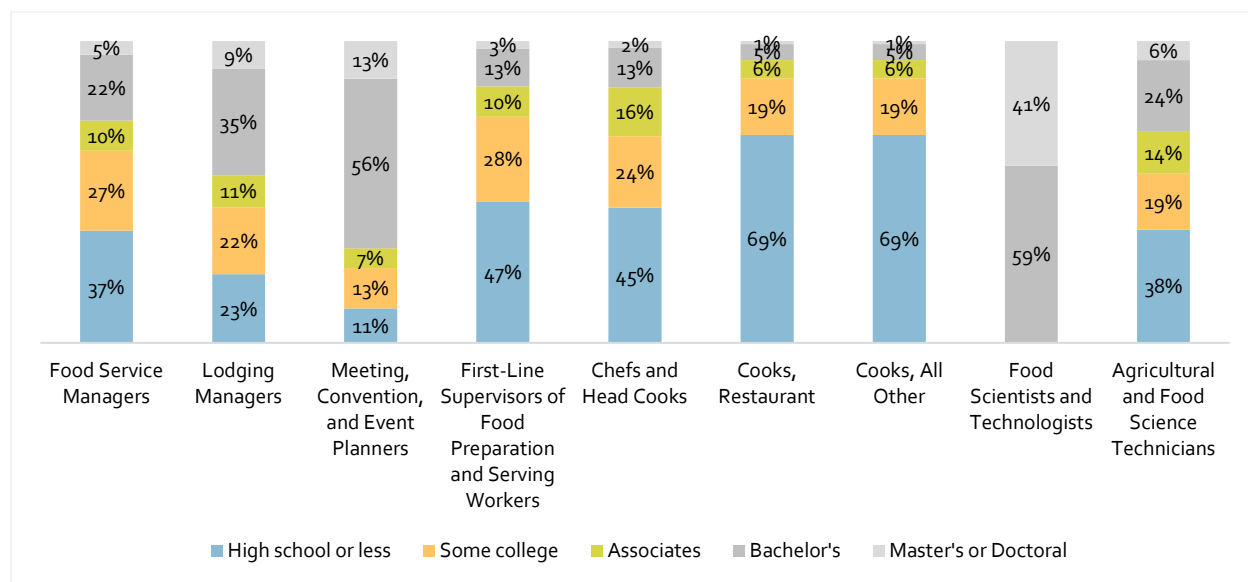
Exhibit 7c. Top skills for selected occupations in the Far North region – Culinary

Specialized Skill	Job Postings	Share of Job Postings
Scheduling	8	62%
Lifting Ability	7	54%
Calculation	4	31%
Chemistry	4	31%
Database Management	4	31%
Enology	4	31%

Education and Training Requirements

The U.S. Census Bureau and Bureau of Labor Statistics collects data on the level of education achieved by workers employed in occupations. Exhibit 8 shows the national-level educational attainment of the current workforce in the selected occupations.

Exhibit 8. Educational attainment for selected occupations, 2018



The Bureau of Labor Statistics (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 the BLS publishes projections data. Exhibits 9a, 9b and 9c show the entry-level job requirements for the selected occupations.

Exhibit 9a. Typical education, training, and work experience for selected occupations – Culinary Arts

Occupation	Typical Entry-Level Education Required	Work Experience Required	Typical On-the-job Training Required
Chefs and Head Cooks	35-1011	High school diploma or equivalent	5 years or more
Cooks, Institution and Cafeteria	35-2012	No formal educational credential	None
Cooks, Private Household	35-2013	Postsecondary nondegree award	Less than 5 years
Cooks, Restaurant	35-2014	No formal educational credential	Less than 5 years
Cooks, All Other	35-2019	No formal educational credential	None

Exhibit 9b. Typical education, training, and work experience for selected occupations – Hospitality

Occupation	Typical Entry-Level Education Required	Work Experience Required	Typical On-the-job Training Required
Food Service Managers	11-9051	High school diploma or equivalent	Less than 5 years
Lodging Managers	11-9081	High school diploma or equivalent	Less than 5 years
Meeting, Convention, and Event Planners	13-1121	Bachelor's degree	None
First-Line Supervisors of Food Preparation and Serving Workers	35-1012	High school diploma or equivalent	Less than 5 years

Exhibit 9c. Typical education, training, and work experience for selected occupations – Culinary

Occupation	Typical Entry-Level Education Required	Work Experience Required	Typical On-the-job Training Required
Food Scientists and Technologists	19-1012	Bachelor's degree	None
Agricultural and Food Science Technicians	19-4011	Associate's degree	None

Educational Supply

Educational supply for an occupation can be estimated by analyzing the number of awards issued in related Taxonomy of Programs (TOP) or Classification of Instructional Programs (CIP) codes. Exhibit 10 shows the TOP and CIP codes related to the selected occupations within Far North institutions.

Exhibit 10. Related TOP and CIP programs and codes for the selected occupations in the Far North

TOP Programs and Codes	Aligned CIP Programs and Codes
Culinary Arts/Culinary	Culinary Arts
Nutrition, Foods, and Culinary Arts (1306.00)	Foods, Nutrition, and Wellness Studies, General (19.0501)
Dietetic Services and Management (1306.20)	Foodservice Systems Administration/Management (19.0505)
Culinary Arts (1306.30)	Cooking and Related Culinary Arts, General (12.0500)
Hospitality	Hospitality
Hospitality (1307.00)	Hospitality Administration/Management, General (52.0901)
Restaurant and Food Services and Management (1307.10)	Restaurant, Culinary, and Catering Management/Manager (12.0504)

Community College Supply

Exhibit 11 compares the average number of certificates and degrees conferred by Far North region community colleges in the selected programs over the last three academic years.

Exhibit 11. Regional community college awards (certificates and degrees), 2017-18 through 2019-20

Program	College	Annual Awards 2017-2018	Annual Awards 2018-2019	Annual Awards 2019-2020	3-Year Annual Awards Average
Hospitality (1307.00)	Redwoods	1	1	0	1
	Shasta	9	4	3	5
Restaurant and Food Services and Management (1307.10)	Mendocino	5	2	4	4
Culinary Arts/Culinology	Totals	15	7	7	10
Nutrition, Foods, and Culinary Arts (1306.00)	Butte	14	14	17	15
	Lassen	1	2	0	1
Culinary Arts (1306.30)	Shasta	29	12	12	18
Dietetic Services and Management (1306.20)	Shasta	4	0	0	1
Hospitality	Totals	48	28	29	35

Exhibits 12a and 12b show the distribution of issued awards by type.

Exhibit 12a. Regional community college awards by type – Culinary Arts, 2017-18 through 2019-20

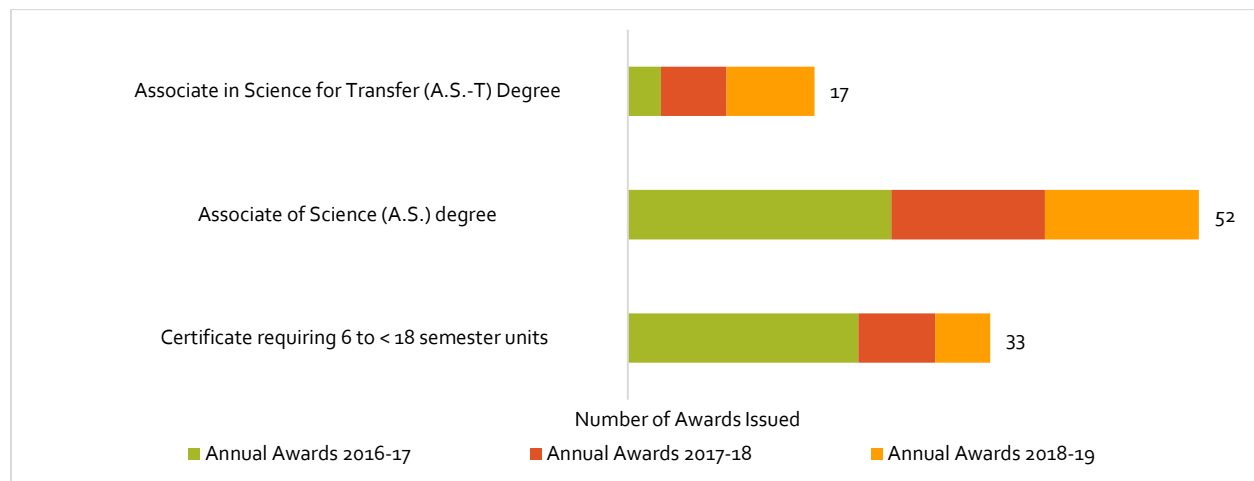
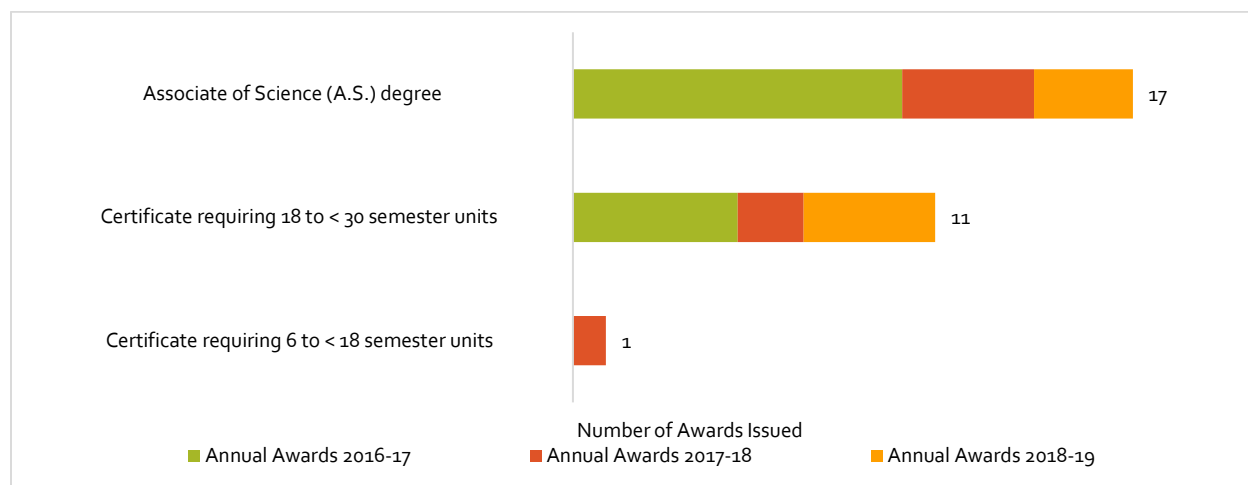


Exhibit 12b. Regional community college awards by type – Hospitality, 2017-18 through 2019-20



Other Postsecondary Supply

It is crucial to consider the supply from non-community college institutions in the region that provides training for the selected occupations.

No other postsecondary training providers in the Far North region offers programs in Culinary Arts, Hospitality or Culinology.

Findings

- The Far North region held 744 jobs for culinary arts, 503 jobs for hospitality and 32 jobs for culinology professionals in 2019.
- Jobs for culinary arts, hospitality and culinology professionals are projected to grow by 5.4%, 3.4% and 3.9%, respectively, over the next five years.
- Over the next five years, culinary arts, hospitality and culinology professionals are projected to have 744, 503 and 32 annual openings, respectively, in the Far North region.
- Wage data shows that culinary arts, hospitality and culinology professionals tend to earn more than the subregion's living wage. Reported earnings for culinology professionals tops the group and ranges from a low of \$17 per hour for entry-level work to a high of \$45 per hour for experienced workers. Culinary arts professionals have the lowest wages as a group with a low of \$13 per hour for entry-level work to a high of \$18 per hour for cooks. Experienced chefs and head cooks can earn up to \$30 per hour. Hospitality professionals have a wide range of wages with a low of \$13 per hour for entry-level work to a high of \$30 per hour for experienced managers. The 2020 living wage for a single adult in the Far North region is \$10.89 per hour.
- According to real-time labor market information, there were 800 online job postings for culinary arts, hospitality and culinology professionals between November 1, 2019, and October 31, 2020. Culinary arts had 276 postings, hospitality had 511 postings and culinology had 13 postings.
- Percentages of culinary arts, hospitality and culinology professionals with education that is consistent with community college offerings (some college or associate degrees) range widely.

Between 25-50% of culinary arts professional have education consistent with community college offerings. Between 25-50% of culinary arts professionals have education consistent with community college offerings. Between 20-38% of hospitality professionals have education consistent with community college offerings. For culinology, only agriculture and food science technicians have education consistent with community college offerings, with 33% of professional holding related awards.

- Analysis of postsecondary awards in the Far North region shows that, on average, 10 awards were issued for culinary arts and 35 awards were issued for hospitality each year between the 2017-2018 and 2019-2020 academic years. The most popular award conferred was an Associate of Science degree.

Recommendations

- Based on a three-year average of annual awards in related Far North region programs (45 certificates and degrees) and projected yearly openings (1,279 openings), the region seems to have room for new training programs related to the occupation.
- The Far North Center of Excellence recommends moving forward with programmatic updates.

COE Recommendation		
Move forward with the program	Program is not recommended	Additional information needed
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Appendix A. Methodology and Sources

Occupations in this report were identified using O*Net. This report's findings were determined using labor market data from the Bureau of Labor Statistics (BLS), U.S. Census Bureau data from Emsi, and jobs posting data from Burning Glass.

Sources used for data analysis purposes in this report include:

- U.S. Department of Labor/Employment and Training Administration (DOL ETA) O*NET Online
- Burning Glass, Labor Insight/Jobs
- Economic Modeling Specialists, International (EMSI)
- California Employment Development Department, Labor Market Information Division (EDD, LMID)
- Bureau of Labor Statistics, Occupational Employment Statistics (OES)
- California Community Colleges Chancellor's Office, Cal-PASS Plus LaunchBoard
- Living Insight Center for Community Economic Development, Self-Sufficiency Standard Tool for California
- California Community Colleges Chancellor's Office Management Information Systems (MIS Data Mart)
- U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS)

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