

# CULINARY ARTS, DIETETIC AND NUTRITION CAREERS in the SOUTH CENTRAL VALLEY SUBREGION

A labor market profile of community college programs in Fresno, Kern, Kings, Madera and Tulare counties



## Introduction

Culinary arts, dietetics and nutrition are disciplines that encompass the preparation of food and healthful eating. Nationally, the Bureau of Labor Statistics expects strong growth for the employment of dietitians and nutritionists, projecting a 16% increase in jobs from 2014 to 2024. The Central Valley/Mother Lode Center of Excellence has conducted a labor market analysis and educational assessment of careers related to culinary arts, dietetics and nutrition in the South Central Valley, a region comprising five counties: Fresno, Kern, Kings, Madera and Tulare counties. (Please refer to Appendix A for details on methodology and definitions of key terms.) The three areas explored in this report have designated areas of specialization and employ a variety of skilled tasks:

- **Culinary arts** refers to the preparation and arrangement of food, activities that can be conducted in a variety of settings and span a wide range of cultures. According to the Chancellor's Office, most culinary arts programs "offer instruction in food preparation, baking and pastry, basic cooking and hospitality including what is known in the industry as front of the house, or the dining room."<sup>1</sup>
- **Dietetics** refers to the scientific study of the food people eat, which is broadly concerned with diet and nutrition and how these two areas affect health. Dietetics also focuses on the use of food to help prevent and treat disease or maintain and promote health. Health professionals in this area provide nutrition education and dietetic services.
- **Nutrition** refers to the branch of science that deals with nutrients and nutrition, particularly in humans. Individuals who pursue careers in nutrition typically study food science or nutrition science. They assist with behavioral issues, providing guidance as to general nutrition and the health properties of food.

## Occupational Overview

**Culinary Arts:** Academic programs in culinary arts prepare students to enter a range of careers. Common job titles may include chef or even culinarian or culinary artist. According to the website the Art Career Project, "a culinary artist is responsible for preparing food and making it look not only edible, but enticing."<sup>2</sup> They may decide to specialize in cuisine from a specific region or a particular type of food. Within a restaurant kitchen, there are often a number of chefs, each specializing in a particular area. Titles include executive chef, sous chef, saucier, station chef and line cook.<sup>3</sup> Each chef is tasked with a different responsibility within the kitchen. The executive chef oversees the kitchen and designs new menus, creating original recipes and dishes. The sous chef is concerned with kitchen management and ensuring food is prepared properly and everything runs smoothly. Culinary arts dovetails with the hospitality field. While the focus of culinary arts is food preparation, the day-to-day operation of restaurants and other hospitality establishments is a component of many careers in culinary arts.

**Dietitians:** Within the United State, nutrition experts who obtain a certain level of education and training can become credentialed as Registered Dietitians. According to the California Academy of Nutrition and Dietetics, there are two types of certification related to the field of dietetics: Registered Dietitian or Registered Dietitian Nutritionists. To obtain certification, these professionals must obtain at least a bachelor's degree, complete a qualifying internship, pass a national registration examination and complete ongoing continuing education.<sup>4</sup>

<sup>1</sup> "Culinary arts programs cook up student success." California Community Colleges Chancellor's Office. Accessed November 11, 2016.

<http://www.californiacommunitycolleges.cccco.edu/ProgramstoWatch/MoreProgramstoWatch/CulinaryArts.aspx>

<sup>2</sup> "Get a taste of a culinary art career." The Art Career Project. Accessed November 11, 2016.

<http://www.theartcareerproject.com/culinary-art-career/405/>

<sup>3</sup> "Chef jobs, training, and career paths." Culinaryschools.org. Accessed November 11, 2016.

<http://www.culinaryschools.org/chef-types/>

<sup>4</sup> California Academy of Nutrition and Dietetics. Accessed November 11, 2016. <http://www.dietitian.org/>

According to the national Academy of Nutrition and Dietetics, dieticians may work in health care systems, home health care, foodservice, business or for research and educational organizations. They may provide medical nutrition therapy to treat chronic conditions or assist with health promotion, disease prevention and wellness services.<sup>5</sup>

**Nutritionists:** Nutritionists are not as highly regulated as dieticians, and there is no requirement for nutritionists to be licensed in California. Much of the work of nutritionists concerns behavioral issues, as well as teaching clients about general nutrition and health properties of food and offering nutrition supervision.<sup>6</sup> Nutritionists work in a variety of settings, in private practice or for hospitals, health care clinics, schools or long-term care facilities.

Exhibit 1 displays the eight TOP codes and titles available to California Community Colleges for training and pathways related to one or more of the 14 targeted occupations. See Appendix B for specific job descriptions.

### Exhibit 2 – Culinary Arts, Dietetics and Nutrition TOP6 Codes and Titles

TOP6 Code	TOP 6 Program Title	SOC Code	Occupation
130600	Nutrition, Foods and Culinary Arts	351011	Chefs and Head Cooks
		292051	Dietetic Technicians
		291031	Dietitians and Nutritionists
		351012	First-Line Supervisors of Food Preparation and Serving Workers
130620	Dietetic Services and Management	352012	Cooks, Institution and Cafeteria
		292051	Dietetic Technicians
		291031	Dietitians and Nutritionists
		351012	First-Line Supervisors of Food Preparation and Serving Workers
		119051	Food Service Managers
130630	Culinary Arts	351011	Chefs and Head Cooks
		352019	Cooks, All Other
		352012	Cooks, Institution and Cafeteria
		352013	Cooks, Private Household
		352014	Cooks, Restaurant
		351012	First-Line Supervisors of Food Preparation and Serving Workers
130660	Dietetic Technology	292051	Dietetic Technicians
130700	Hospitality	351012	First-Line Supervisors of Food Preparation and Serving Workers
		119051	Food Service Managers
		119081	Lodging Managers
		131121	Meeting, Convention and Event Planners
130710	Restaurant and Food Services and Management	351011	Chefs and Head Cooks
		351012	First-Line Supervisors of Food Preparation and Serving Workers
		119051	Food Service Managers
130720	Lodging Management	119051	Food Service Managers
		119081	Lodging Managers
130730	Resort and Club Management	119071	Gaming Managers
		119081	Lodging Managers
		131121	Meeting, Convention and Event Planners

<sup>5</sup> "What is a registered dietician?" Academy of Nutrition and Dietetics. Accessed November 11, 2016.

<http://www.eatrightpro.org/resources/about-us/what-is-an-rdn-and-dtr/what-is-a-registered-dietitian-nutritionist>

<sup>6</sup> Nutrition Science Degree.org. Accessed November 11, 2016. <http://nutritionsciencedegree.org/what-is-the-difference-between-a-nutritionist-and-a-dietician/>

## Projected Employment Growth

Overall, the 14 culinary, dietetics and nutrition occupations identified for the study are projected to experience moderate job growth over the next five years (2016-2021), increasing overall employment by 10% in the five-county region.

The 14 identified occupations currently employ about 19,000 workers across the South Central Valley.

- The largest occupation is first-line supervisors of food preparation and serving workers, with 5,152 current jobs and a growth rate of 12%. This occupation has the second highest number of projected job openings, and over the next five years is expected to add 609 new jobs in the five-county area.
- The occupation of restaurant cooks has 5,065 jobs and the highest growth rate of all 14 occupations, 14%. This occupation is projected to add more than 700 jobs in five years.
- The only occupation requiring an associate degree is that of dietetic technicians. This occupation has a moderate projected growth rate of 10%. However, this occupation is only expected to add 23 positions by 2021, with seven annual openings.

Exhibit 2 shows the employment outlook for each of the 14 culinary, dietetics and nutrition occupations in the South Central Valley. The data are sorted in descending order by projected annual openings.

**Exhibit 2 – Projected Occupational Growth for the South Central Valley**

SOC Code	Description	2016 Jobs	2021 Jobs	2016-2021 % Change	Annual Openings
35-1012	First-Line Supervisors of Food Preparation and Serving Workers	5,152	5,761	12%	288
35-2014	Cooks, Restaurant	5,065	5,769	14%	287
35-2012	Cooks, Institution and Cafeteria	1,834	2,011	10%	88
11-9051	Food Service Managers	2,231	2,370	6%	77
51-3011	Bakers	1,410	1,470	4%	49
35-2015	Cooks, Short Order	1,177	1,211	3%	39
35-1011	Chefs and Head Cooks	764	850	11%	30
29-1031	Dietitians and Nutritionists	482	533	11%	14
13-1121	Meeting, Convention, and Event Planners	296	335	13%	12
35-2019	Cooks, All Other	208	219	5%	8
29-2051	Dietetic Technicians	240	263	10%	7
11-9081	Lodging Managers	175	164	-6%	5
11-9071	Gaming Managers	34	37	9%	-
35-2013	Cooks, Private Household	<10	<10	-	-
<b>Total for All 14 Occupations</b>		<b>19,073</b>	<b>20,998</b>	<b>10%</b>	<b>906</b>

\*Growth refers to net change over the period, i.e. new job creation or job decline, and does not factor in replacement jobs.

\*\*Annual openings represents the annual average number of new jobs plus replacement jobs projected for the five-year period.

## Wages

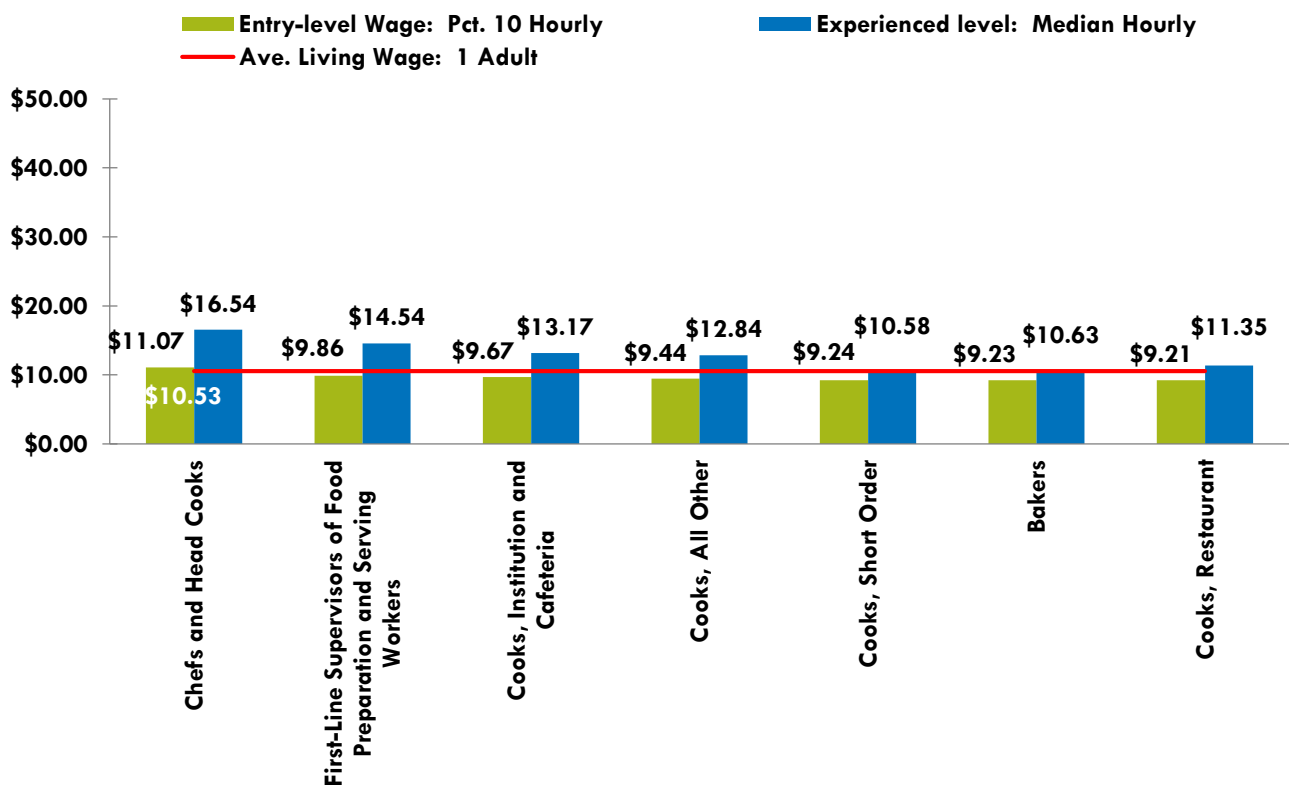
In the five counties comprising the South Central Valley, the average living wage for one adult is \$10.53/hour. Exhibit 3 displays the living wage for one adult by county.

**Exhibit 3 – Living Wages for One Adult by County**

County	Living Wage
Fresno	\$10.84
Kern	\$10.72
Kings	\$9.89
Madera	\$10.83
Tulare	\$10.37
<b>Average</b>	<b>\$10.53</b>

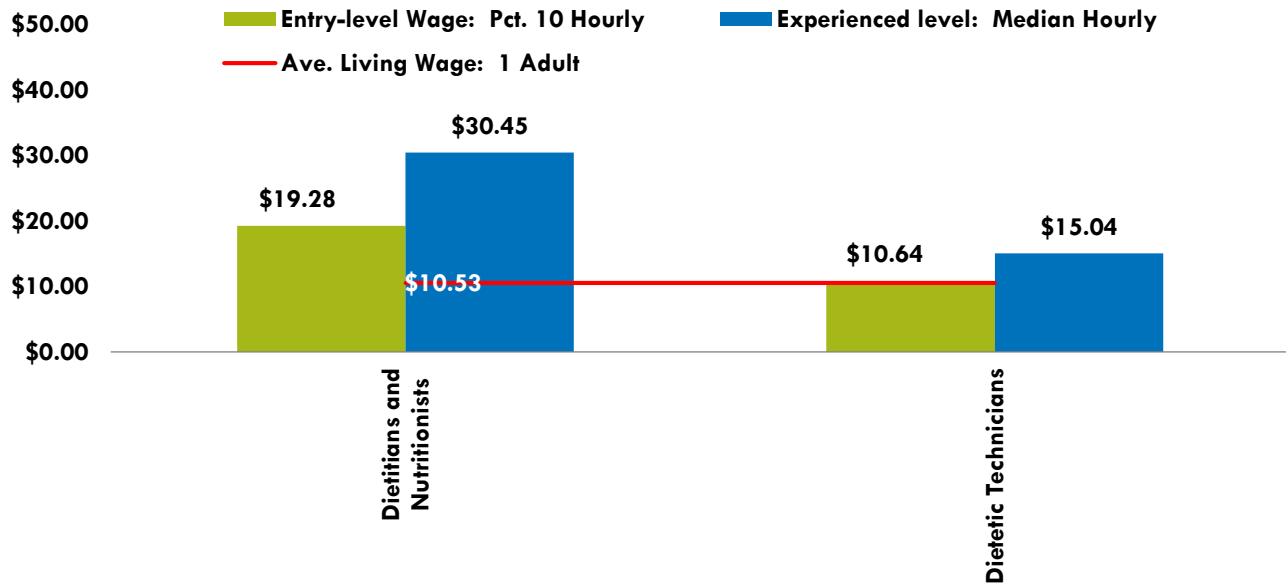
Exhibits 4a, 4b and 4c compare the entry-level and experienced wages of the 14 culinary arts, dietetics and nutrition occupations to the South Central Valley’s average living wage. In Exhibit 4a, the entry-level wage for only one occupation, chefs and head cooks, exceeds the average living wage. The experienced wages for all seven culinary arts occupations exceed the average living wage. (Wages for private household cooks were not available.)

**Exhibit 4a – Wage Comparison for Culinary Arts Occupations**



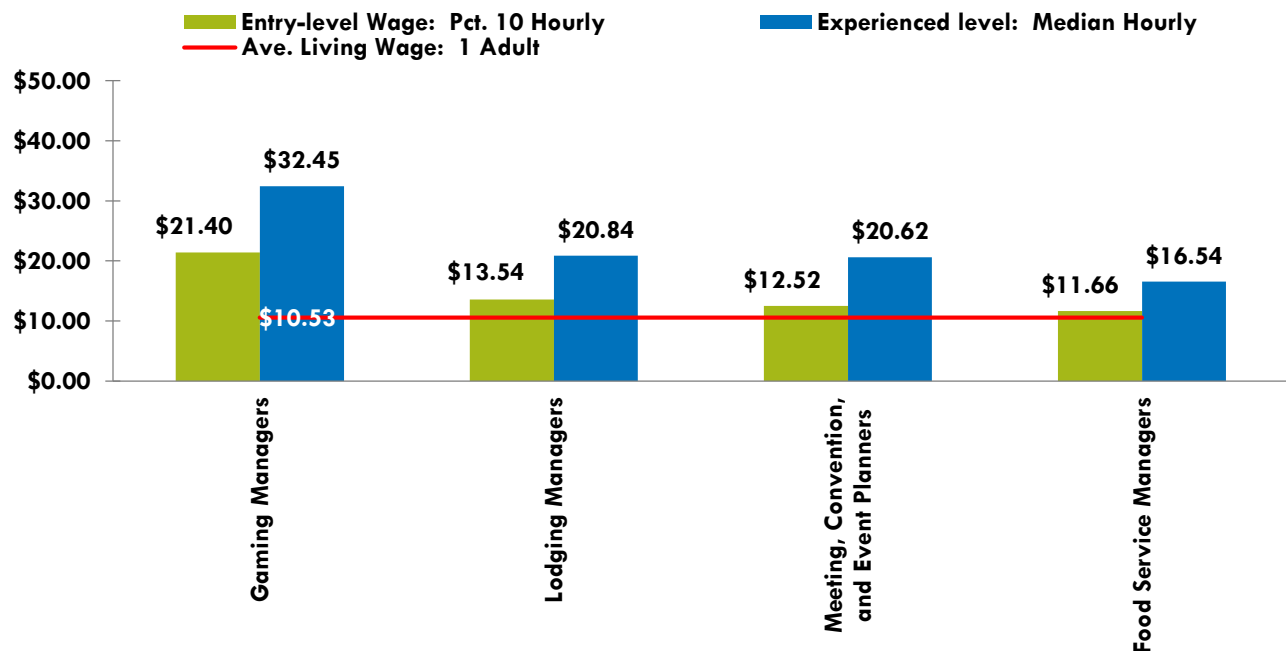
The entry-level and experienced wages of dietitians and nutritionists far exceeds the average living wage in the South Central Valley (Exhibit 4b). In fact, the entry-level wage for this occupation is nearly twice the average living wage. By comparison, the dietetic technicians entry-level wage is nearly even with the average living wage, surpassing it by only 11 cents. The experienced wage of dietetic technicians is \$15.04/hour.

**Exhibit 4b – Wage Comparison for Dietetics and Nutrition Occupations**



All entry-level and experienced wages for occupations related to hospitality/management exceed the South Central Valley’s average living wage (Exhibit 4c). The occupation of gaming managers offers the highest wages, \$21.40/hour as an entry-level wage and \$32.45/hour as an experienced wage. The occupation of food service managers offers the lowest wages in the group.

**Exhibit 4c – Wage Comparison for Hospitality/Management Occupations**



## Typical Education Level

Education and training requirements for entry-level work will vary by occupation and employer preference. Exhibit 5 shows the typical required entry-level education as identified by the Bureau of Labor Statistics as well as the percentage of workers who have at least some college or an associate degree, data derived from the Census Bureau's Current Population Survey.

According to the education and training requirements listed by the Bureau of Labor Statistics, dietitians and nutritionists have a typical entry-level education of a bachelor's degree, with 12% of current workers indicating only some college to an associate degree as their highest level of education.

Meeting, convention and event planners also have a bachelor's degree as the typical entry-level education, but 27% of current workers in this occupation indicate they have only some college to an associate degree as their highest level of education.

The occupation of dietetic technicians has a typical entry-level education of an associate degree. Typical entry-level education for private household cooks is a postsecondary nondegree credential.

Nearly one-quarter or more of workers in all of the remaining culinary arts, dietetics and nutrition occupations have completed some college to an associate degree as their highest level of education.

**Exhibit 5 – Education Requirements for Culinary Arts, Dietetics and Nutrition Occupations**

Occupation	Typical Entry-level Education	% of Current Workers with Associate Degree or Some College (CPS)
Bakers	No formal educational credential	28%
Chefs and Head Cooks	High school diploma or equivalent	39%
Cooks, All Other	No formal educational credential	23%
Cooks, Institution and Cafeteria	No formal educational credential	23%
Cooks, Private Household	Postsecondary nondegree award	23%
Cooks, Restaurant	No formal educational credential	23%
Cooks, Short Order	No formal educational credential	23%
Dietetic Technicians	Associate degree	56%
Dietitians and Nutritionists	Bachelor's degree	12%
First-Line Supervisors of Food Preparation and Serving Workers	High school diploma or equivalent	38%
Food Service Managers	High school diploma or equivalent	38%
Gaming Managers	High school diploma or equivalent	40%
Lodging Managers	High school diploma or equivalent	33%
Meeting, Convention and Event Planners	Bachelor's degree	27%

## Occupational Trends

**Culinary Arts:** Interest in culinary arts and the areas of diet and nutrition have been gaining interest in recent years. Culinary tastes continue to evolve as new chefs push the art form in new directions with new techniques and applications. Locally grown produce and meats have gained popularity, and chefs are increasingly sourcing their ingredients from nearby farms.

The National Restaurant Association identified the top 20 culinary trends for 2016, which include food with a compelling story, sustainability and local sourcing.<sup>7</sup> The National Restaurant Association's 20 trends are shown in Exhibit 6.<sup>8</sup>

**Exhibit 6 – National Restaurant Association's 20 Trends for 2016**

2016 Culinary Trends			
Chef-driven fast-casual concepts	Locally grown produce	Ethnic-inspired breakfast items	Artisan butchery
	Locally sourced meat and seafood	Fresh/housemade sausage	Ethnic condiments and spices
Healthful kids' meals	Sustainable seafood	Housemade/artisanal pickles	Authentic ethnic cuisine
New cuts of meat	Environmental sustainability	Food waste reduction/management	Farm/estate branded items
Hyper-local sourcing	Natural ingredients/minimally processed foods	Ancient grains	Street food/food trucks

According to Escoffier Online Culinary Academy, other trends include: fruits used in savory dishes, vegetables replacing fruits in desserts; using spices and flavors from Asia in traditional American dishes; and borrowing European craft techniques to produce food products, such as beer, cheese and oil.<sup>9</sup>

**Nutrition and Dietetics:** Just as the realm of culinary arts continues to evolve, so does the field of nutrition and dietetics. Recent trends include, souping instead of juicing which retains the fiber of the vegetables or fruit used to prepare the soup; products with less sugar; foods and beverages that have been fortified with probiotics; and increased attention toward incorporating full-fat dairy, pulses (lentils, beans and chickpeas), beets and protein into diets.<sup>10</sup>

The aging baby boomer population has increased the need for nutrition professionals. According to the College Foundation of North Carolina, the demand for nutrition experts is rising because of increased awareness that a number of health conditions benefit from improved nutrition, and "more people recognize the connection between good eating habits and improved health."<sup>11</sup>

While dietitians have typically been employed by hospitals, their roll is expanding in non-traditional settings. They are finding employment in senior living facilities and communities, sports nutrition, food industry consulting, community counseling and physiotherapy.<sup>12</sup>

<sup>7</sup> Thorn, Bret. "20 trends chefs expect in 2016: Ethnic breakfast items, new cuts of meat, more." Nation's Restaurant News. November 12, 2015.

[http://nrm.com/food-trends/20-trends-chefs-expect-2016-ethnic-breakfast-items-new-cuts-meat-more#slide-1-field\\_images-149311](http://nrm.com/food-trends/20-trends-chefs-expect-2016-ethnic-breakfast-items-new-cuts-meat-more#slide-1-field_images-149311)

<sup>8</sup> "What's hot: 2016 culinary forecast." National Restaurant Association. Accessed November 11, 2016.

[http://www.restaurant.org/Restaurant/media/Restaurant/Sitelimages/News%20and%20Research/Whats%20Hot/WhatsHot2016\\_Top20Food\\_1200x1200.jpg](http://www.restaurant.org/Restaurant/media/Restaurant/Sitelimages/News%20and%20Research/Whats%20Hot/WhatsHot2016_Top20Food_1200x1200.jpg)

<sup>9</sup> Larson, Sarah. "The top 10 recent culinary trends." Escoffier Online Culinary Academy. March 13, 2014.

<http://www.escoffieronline.com/the-top-10-recent-culinary-trends/>

<sup>10</sup> Webb, Denise. "Popular nutrition trends for 2016." Today's Dietician. December 2015 issue, Vol. 17, No. 12, p. 26.

<http://www.todaysdietitian.com/newarchives/1215p26.shtml>

<sup>11</sup> "Food for thought: Career trends in nutrition and dietetics." College Foundation of North Carolina. Accessed November 11, 2016.

[https://www1.cfnc.org/Plan/For\\_A\\_Career/Career\\_Cluster\\_Profile/Cluster\\_Article.aspx?articleId=jXEcdNxV085RwY1rgTmWagXAP3DPAXXAP3DPAX&cld=BufXemcmHBSobit9hbo0XAP2BPAXwXAP3DPAXXAP3DPAX&sectionId=3](https://www1.cfnc.org/Plan/For_A_Career/Career_Cluster_Profile/Cluster_Article.aspx?articleId=jXEcdNxV085RwY1rgTmWagXAP3DPAXXAP3DPAX&cld=BufXemcmHBSobit9hbo0XAP2BPAXwXAP3DPAXXAP3DPAX&sectionId=3)

<sup>12</sup> Ibid.

## Regional Programs

Eight TOP codes and titles related to culinary arts, dietetics and nutrition were translated into 13 Classification of Instructional Program (CIP) codes. However, two of them were removed:

- 51.0000 – Health Services/Allied Health/Health Sciences, General
- 2.1804 – Selling Skills and Sales Operations

This was due to their applicability to numerous occupations far outside the scope of this profile. The data by CIP title are shown in Exhibit 7a. These data reveal that five South Central Valley community colleges had culinary arts, dietetics or nutrition programs in 2014. Awards include certificates and degrees.

Focusing strictly on culinary arts, there were 352 completers in the region in 2014; whereas, dietetics and nutrition had only one completer. That single completion in Foods, Nutrition and Wellness Studies was awarded by Fresno City College. The remaining 22 completions fell under a foodservice or culinary management CIP title.

**Exhibit 7a – Culinary Arts, Dietetics and Nutrition Completions**

Educational Program	College	Awards 2014
<b>Baking and Pastry Arts/Baker/Pastry Chef</b>	Institute of Technology Inc.	55
	Bakersfield College	46
<b>Cooking and Related Culinary Arts, General</b>	Fresno City College	0
	Quality College of Culinary Careers	0
	Bakersfield College	0
	Fresno City College	0
<b>Culinary Arts/Chef Training</b>	Institute of Technology Inc.	251
	Quality College of Culinary Careers	0
	Bakersfield College	0
<b>Dietitian Assistant</b>	Fresno City College	0
	Bakersfield College	0
<b>Foods, Nutrition, and Wellness Studies, General</b>	Fresno City College	1
<b>Foodservice Systems Administration/Management</b>	Bakersfield College	2
	College of the Sequoias	1
	Fresno City College	3
<b>Hospitality Administration/Management, General</b>	Heald College-Fresno	0
<b>Institutional Food Workers</b>	Bakersfield College	0
	Fresno City College	0
<b>Personal and Culinary Services, Other</b>	Fresno City College	0
<b>Resort Management</b>	West Hills College-Lemoore	0
	Bakersfield College	2
<b>Restaurant, Culinary, and Catering Management/Manager</b>	College of the Sequoias	0
	Fresno City College	1
	Quality College of Culinary Careers	0
	West Hills College-Lemoore	13



In order to gain a clear understanding of how the CIP coding in the above data correlates to community college TOP coding, completion data shown in Exhibit 7b were assembled and analyzed. There were a total of 290 culinary arts, dietetics or nutrition awards distributed among four colleges between academic years 2013-14 and 2015-16. Exhibit 7b contains detailed results with corresponding three-year averages for each college overall and by TOP 6.

### Exhibit 7b – Community College Awards Related to Culinary Arts, Dietetics and Nutrition

TOP 6 Code	TOP 6 Title	College	Academic Year			3-Year Average
			2013-14	2014-15	2015-16	
130601	Nutrition, Foods and Culinary Arts	Fresno City	1	3	1	2
130620	Dietetic Services and Management	Bakersfield	2	6	7	5
		Fresno City	3	7	2	4
		Sequoias	1	2	1	1
130630	Culinary Arts	Bakersfield	46	18	20	28
130710	Restaurant and Food Services and Management	Bakersfield	2	4	2	3
		Fresno City	1	2	1	1
		Sequoias		2	2	1
		West Hills Lemoore	13	53	86	51
130730	Resort and Club Management	West Hills Lemoore		1	1	1
<b>Total</b>			<b>69</b>	<b>98</b>	<b>123</b>	<b>97</b>

### Conclusion & Recommendations

Based on this study’s occupational and program findings, the Center of Excellence suggests colleges in the South Central Valley consider taking the following steps:

- Review the TOP codes and occupational titles included in this assessment to ensure that only those occupations with the most direct employment relevance to the curricula have been included.
- Based on the review of employer educational preferences and employment projections, culinary arts, dietetics and nutrition programs should focus on preparing students for first-line supervisors of food preparation, and serving workers occupations.
- Overall, the entry-level wages for half of the culinary arts, dietetics and nutrition occupations exceed the living wage for one adult. However, six of the seven entry-level wages for culinary arts occupations fall below the region’s average living wage. Out of all three occupational groups analyzed, the highest wages are earned by dietitians and nutritionists, and gaming managers.
- Regarding culinary arts, the industry trends identified by the study such as artisanal craftsmanship, food with a compelling story, sustainability and local sourcing should be taken into consideration when curriculum is reviewed and updated or as new curriculum is developed.

## Appendix A: Methodology, Data Sources, Key Terms and Concepts, and Implications for Analysis

### Methodology

This report identifies occupations that are relevant to the California Community Colleges. Occupations can be identified using the federal Standard Occupational Classification (SOC) system, while related educational programs can be found using Taxonomy of Programs (TOP) codes. A TOP-SOC crosswalk can be used to identify education programs that are directly related to specific occupations.

### Data Sources

Labor market and educational supply data compiled in this report derive from a variety of sources. Data were drawn from external sources, including the Economic Modeling Specialists, Inc., the California Community Colleges Chancellor’s Office Management Information Systems Data Mart and the National Center for Educational Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS). Below is the summary of the data sources found in this study.

Data Type	Source
Community College Awards	California Community College Chancellor’s Office Data Mart. The program awards module provides all credit degrees and certificates (from 6 to 60 semester units) that have been reported to the Chancellor’s Office: <a href="http://datamart.cccco.edu">datamart.cccco.edu</a> .
Labor Market Information	Economic Modeling Specialists, Intl. (EMSI). EMSI occupational employment data are based on final EMSI industry data and final EMSI staffing patterns. Wage estimates are based on Occupational Employment Statistics (QCEW and Non-QCEW Employees classes of worker) and the American Community Survey (Self-Employed and Extended Proprietors). Occupational wage estimates also affected by county-level EMSI earnings by industry: <a href="http://economicmodeling.com">economicmodeling.com</a> .
Living Wage	A living wage calculator that estimates the cost of living in a specific community or region: <a href="http://livingwage.mit.edu">livingwage.mit.edu</a> .
Private Education Awards	National Center for Educational Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS). It includes all credit degrees and certificates (from less than one year to four years) that have been reported to IPEDS. Higher education institutions are required to report completion data to NCES if they participate in any federal financial assistance program authorized by Title IV of the Higher Education Act: <a href="http://nces.ed.gov/ipeds">nces.ed.gov/ipeds</a> .
Typical Education Level and On-the-job Training	Bureau of Labor Statistics (BLS) uses a system to assign categories for entry-level education and typical on-the-job training to each occupation for which BLS publishes projections data: <a href="http://www.bls.gov/emp/ep_education_tech.htm">www.bls.gov/emp/ep_education_tech.htm</a> .
Additional Education Requirements/ Employer Preferences	The O*NET Job Zone database includes over 900 occupations as well as information on skills, abilities, knowledges, work activities and interests associated with specific occupations: <a href="http://www.onetonline.org">www.onetonline.org</a>

### Key Terms and Concepts

**Annual Job Openings:** Annual openings are calculated by dividing the number of years in the projection period by total job openings.

**Education Attainment Level:** The highest education attainment level of workers age 25 years or older.

**Employment Estimate:** The total number of workers currently employed.

**Employment Projections:** Projections of employment are calculated by a proprietary Economic Modeling Specialists, Intl. (EMSI) formula that includes historical employment and economic indicators along with national, state and local trends.

**Living Wage:** The cost of living in a specific community or region for one adult and no children. The cost increases with the addition of children.

**Occupation:** An occupation is a grouping of job titles that have a similar set of activities or tasks that employees perform.

**Percent Change:** Rate of growth or decline in the occupation for the projected period; this does not factor in replacement openings.

**Replacements:** Estimate of job openings resulting from workers retiring or otherwise permanently leaving an occupation. Workers entering an occupation often need training. These replacement needs, added to job openings due to growth, may be used to assess the minimum number of workers who will need to be trained for an occupation.

**Total Job Openings (New + Replacements):** Sum of projected growth (new jobs) and replacement needs. When an occupation is expected to lose jobs or retain the current employment level, number of openings will equal replacements.

**Typical Education Requirement:** represents the typical education level most workers need to enter an occupation.

**Typical On-The-Job Training:** indicates the typical on-the-job training needed to attain competency in the skills needed in the occupation.

## Appendix B: Bureau of Labor Statistics Occupation Definitions and SOC Codes

### **Chefs and Head Cooks (35-1011.00)**

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.

### **Dietetic Technicians (29-2051.00)**

Assist in the provision of food service and nutritional programs, under the supervision of a dietitian. May plan and produce meals based on established guidelines, teach principles of food and nutrition, or counsel individuals.

### **Dietitians and Nutritionists (29-1031.00)**

Plan and conduct food service or nutritional programs to assist in the promotion of health and control of disease. May supervise activities of a department providing quantity food services, counsel individuals, or conduct nutritional research.

### **First-Line Supervisors of Food Preparation and Serving Workers (35-1012.00)**

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

### **Cooks, Institution and Cafeteria (35-2012.00)**

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

### **Food Service Managers (11-9051.00)**

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

### **Cooks, All Other\* (35-2019.00)**

All cooks not listed separately.

\*For further detail on all other occupations please visit [www.onetonline.org/](http://www.onetonline.org/)

### **Cooks, Private Household (35-2013.00)**

Prepare meals in private homes. Includes personal chefs.

### **Cooks, Restaurant (35-2014.00)**

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.

\*For further detail on all other occupations please visit [www.onetonline.org/](http://www.onetonline.org/)

### **Lodging Managers (11-9081.00)**

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

### **Gaming Managers (11-9071.00)**

Plan, direct, or coordinate gaming operations in a casino. May formulate house rules.

### **Meeting, Convention, and Event Planners (13-1121.00)**

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